DOES NOT CIRCULATE

Minnesota State Medical Association
Annual Meeting, Minneapolis, May 23-25, 1955

Minnesota MEDICINE

UNIVERSITY OF MICHIGAN
MAY 9 1955
MEDICAL

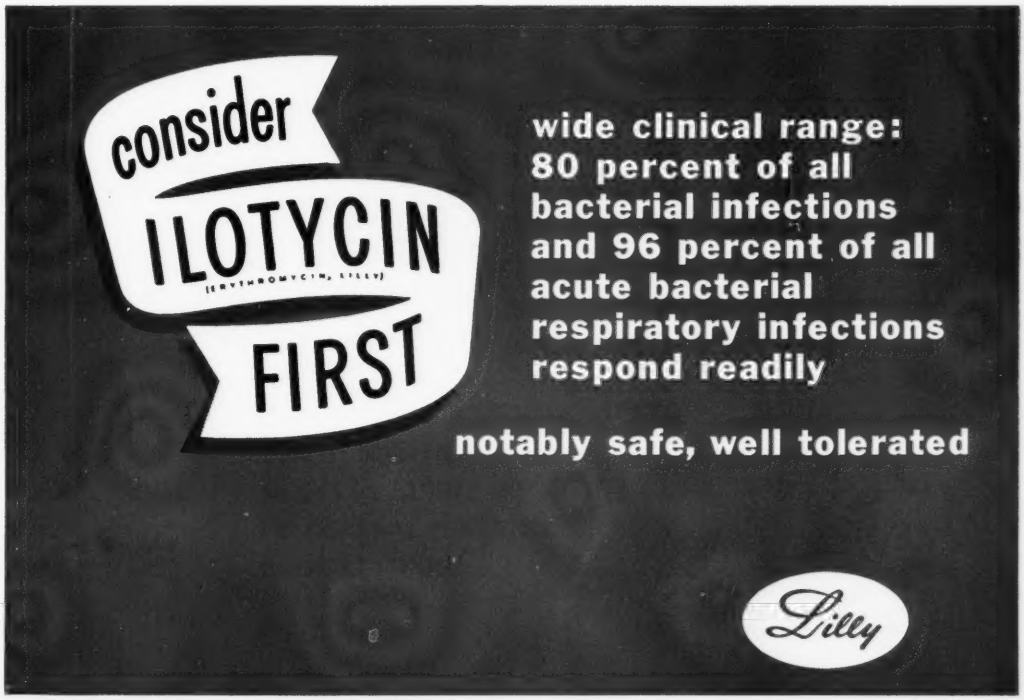
PUBLISHED MONTHLY BY THE MINNESOTA STATE MEDICAL ASSOCIATION

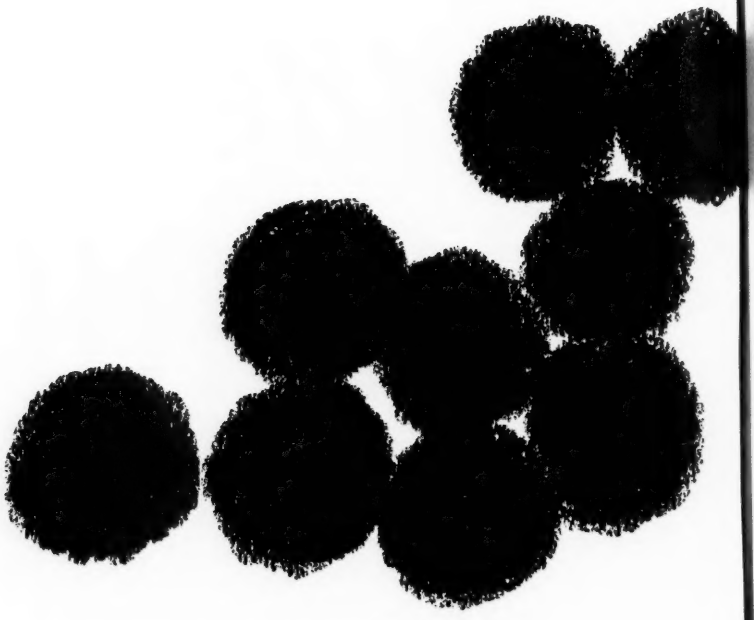
Volume 38 APRIL, 1955 Number 4

Printed in U.S.A.

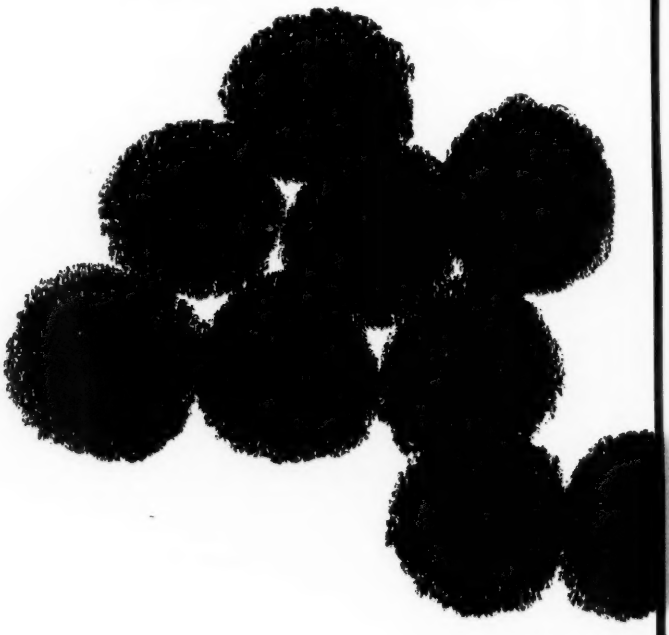
(Table of Contents—Page iii)

40c a copy—$3.00 a year





to combat resistant bacteria...



OFFICIAL JOURNAL
Minnesota State Medical Association, Southern Minnesota Medical Association, Northern Minnesota Medical Association, Minnesota Academy of Medicine, Minneapolis Surgical Society, Minnesota Obstetric and Gynecologic Society, Duluth Surgical Society, and Minneapolis Academy of Medicine.

EDITING AND PUBLISHING COMMITTEE

E. M. Hammes, M.D.
Chairman, Saint Paul

F. M. Owens, Jr., M.D.
Saint Paul

T. A. Peppard, M.D.
Minneapolis

Henry Ulrich, M.D.
Minneapolis

BOARD OF EDITORS

Arthur H. Wells, M.D.
Editor-in-Chief, Duluth

Stuart W. Arhelger, M.D.
Minneapolis

John F. Briggs, M.D.
Saint Paul

Alex E. Brown, M.D.
Rochester

S. Francis Ceplecha, M.D.
Redwood Falls

Tague C. Chisholm, M.D.
Minneapolis

Robert B. Howard, M.D.
Minneapolis

Henry G. Moehring, M.D.
Duluth

Glenn J. Mouritsen, M.D.
Fergus Falls

Olive V. Seibert, B.A.
Saint Paul

George Stilwell, M.D.
Rochester

Contents of Minnesota Medicine copyrighted by Minnesota State Medical Association, 1955.

Minnesota Medicine

Volume 38 April, 1955 Number 4

ORIGINAL CONTRIBUTIONS

Polypoid Rhabdomyosarcoma of the Bladder: Sarcoma Botryoides
Baxter A. Smith, Jr., M.D., Minneapolis, Minnesota 215

The Southern Minnesota Medical Association
William C. Bernstein, M.D., Saint Paul, Minnesota 220

Puerperal Psychoses
E. M. Hammes, Jr., M.D., Saint Paul, Minnesota 223

Psychiatric Illness Following Gastric Resection
John J. Regan, M.D., and *Clarence J. Rowe, M.D.,* Minneapolis, Minnesota 226

Medico-Legal Relations
Gordon R. Kamman, M.D., and *David W. Raudenbush, LL.B.,* Saint Paul, Minnesota 228

Cholangiography
G. M. A. Fortier, M.D., Little Falls, Minnesota 233

Choking Accidents
Lawrence R. Boies, M.D., Minneapolis, Minnesota 235

SEMINAR

Multiple Sclerosis
Z. R. Miller, M.D., Saint Paul, Minnesota 237

LABORATORY AIDS

Functioning Ovarian Tumors
Malcolm B. Dockerty, M.D., Rochester, Minnesota 245

PRESIDENT'S LETTER

Our 102nd Meeting 247

EDITORIAL

The Status of Neurologic Research 248
Minnesota Poll 248
How a Local Banker May Serve the Physician 249
Histoplasmosis in Minnesota 250
Accidents, a Killer of Old and Young 250

THE DEAN'S PAGE

The Procurement of Animals for Research 251

MEDICAL ECONOMICS 252

PUBLIC HEALTH 255

MINNESOTA STATE MEDICAL ASSOCIATION

Preliminary Program—102nd Annual Meeting 256

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS—Physicians Licensed 1954 259

MINNESOTA ACADEMY OF MEDICINE 267

Biopsy Studies of the Gastric Mucosa
R. S. Ylvisaker, M.D., Minneapolis, Minnesota 268

HISTORY OF MEDICINE IN MINNESOTA 276

IN MEMORIAM 282

REPORTS AND ANNOUNCEMENTS 283

COMMUNICATION 284

WOMAN'S AUXILIARY 285

OF GENERAL INTEREST 286

BOOK REVIEWS 290

MINNESOTA MEDICINE

OFFICIAL JOURNAL OF THE MINNESOTA STATE MEDICAL ASSOCIATION
496 Lowry Medical Arts Bldg., Saint Paul 2, Minnesota

BUSINESS MANAGER
R. R. ROSELL

Annual Subscription—$3.00. Single Copies—$0.40. Foreign and Canadian Subscriptions—$3.50.

The right is reserved to reject material submitted for reading or advertising columns. The views expressed in this journal do not necessarily represent those of the Minnesota State Medical Association or any of its constituents.

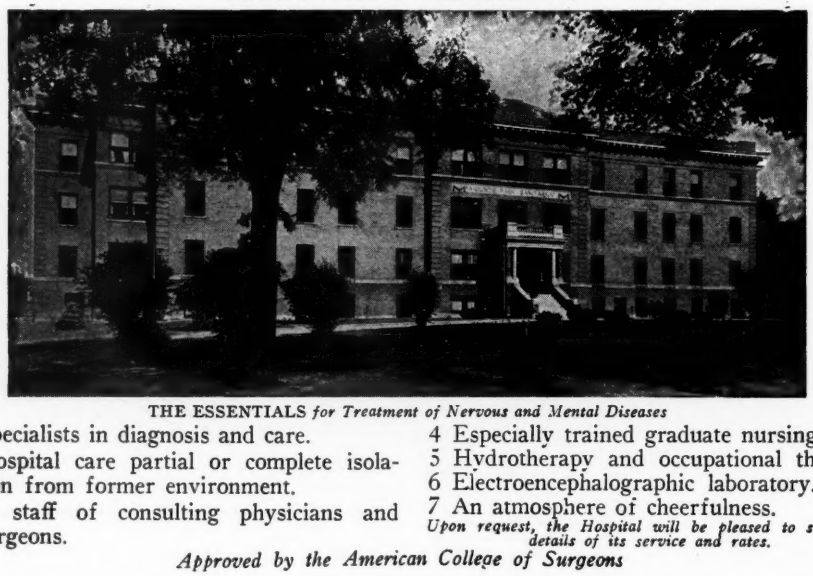
Manuscripts **should be addressed to: Arthur H. Wells, M.D., Editor, 915 East First Street, Duluth 5, Minnesota. Telephone 76636.**

Classified advertising—10 cents a word; minimum charge, $2.00; key number, 25c additional. Remittance should accompany order. Display advertising rates on request.

Communications concerning *subscriptions* and *advertising* should be addressed to MINNESOTA MEDICINE, 2642 University Avenue, Saint Paul 14, Minnesota. Telephone Nestor 2641.

The MOUNDS PARK HOSPITAL

SAINT PAUL, MINNESOTA



THE ESSENTIALS *for Treatment of Nervous and Mental Diseases*

1 Specialists in diagnosis and care.
2 Hospital care partial or complete isolation from former environment.
3 A staff of consulting physicians and surgeons.
4 Especially trained graduate nursing staff.
5 Hydrotherapy and occupational therapy.
6 Electroencephalographic laboratory.
7 An atmosphere of cheerfulness.

Upon request, the Hospital will be pleased to send the details of its service and rates.

Approved by the American College of Surgeons

Original Contributions

Polypoid Rhabdomyosarcoma of the Bladder: Sarcoma Botryoides

BAXTER A. SMITH, JR., M.D.
Minneapolis, Minnesota

AT the risk of seeming heretical, I would suggest that the clinical term "sarcoma botryoides" replace the more scientific pathologic term "rhabdomyosarcoma." If the latter designation is employed, the adjective "polypoid" should precede it, since sarcoma botryoides of the bladder appears to be a clinical entity. This stand is taken in the expectation that the clinical appearance is typical enough to promote early diagnosis and proper treatment. However, I am in complete accord with McFarland,[9] who showed it to be one of the manifestations of dysontogenetic tumors of the urogenital region; he found 119 different names used for this tumor in 516 references. Rhabdomyosarcoma of the prostate is no doubt the same lesion with a different appearance because inadequate room for expansion prevents the pronounced edema and the polypoid appearance.

Botryoid sarcoma is a polypoid, usually diffuse, edematous-appearing, grapelike tumor, involving the vesical submucosa. It arises in the region of the trigone or internal meatus and tends to produce obstruction early. It spreads through the submucosa to the adjacent bladder, posterior urethra and ureters. It is not feasible grossly to determine the margin of the tumor involvement. Infiltration in depth occurs considerably later. Local extension occurs and distant metastasis (regional lymph nodes, liver and lungs) is fundamentally a late manifestation. Once the lesion escapes the confining viscus, because of surgery or infiltration, rapid, and massive extension or local recurrence is the rule. Its "seeding" tendency seems pronounced.

Based on the behavior just described, the potential prognosis is good. In rhabdomyosarcoma of the adult bladder, the lesions seem to be single and pedunculated and may arise at a distance from the trigone; by description, they are not botryoid but no doubt have the same origin. Sarcoma botryoides occurs in the vaginas of little girls, resulting quickly in protruding polypoid masses. It occurs in the cervix in the middle years and the uterus in later years. The lesion may involve the soft palate also.

The microscopic picture shows edematous loose myxomatous stroma, in some areas fairly dense. The typical cell is spindle-shaped with acidophilic cytoplasm showing longitudinal fibrillae and cross striations. These latter may require phosphotungstic acid or iron-hematoxylin stain for identification; if searched for they usually are present and diagnostic. Mostofi and Morse[10] describe large spherical cells with a small amount of acidophilic cytoplasm and multinucleated giant cells as noted by several pathologists. As McFarland pointed out, the cells may be of mixed types and in varying stages of differentiation.

The bladder tumor is presumed to be of Wolffian-duct origin in the region of the ureteral orifices and trigone and is dysotogenetic, though the fibers of the external urethral sphincter or the prostatic capsule are postulated as the origin by some. Swinney[12] described a small pedunculated narrow growth protruding from the posterior urethra into the bladder at cystotomy. The recurrence was typical, diffuse botryoid sarcoma, and the initial description is likely that of a very early lesion. Cervical and vaginal origin could be from the duct of Gartner, a Wolffian-duct structure, or it may be from the Müllerian duct; most tumors in this location originate in the proximal vagina or the anterior wall.

The incidence of this tumor is much greater than reported cases would indicate, although the

Presented before the Minnesota Academy of Medicine, February 10, 1954.

lesion is uncommon. In addition to the two cases here reported, I have knowledge of another seen in Minneapolis. Grier and Phillips,[4] in 1953, stated that twenty-two cases had been reported but did not include at least twenty-eight reported since their article was submitted for publication. Many tumors have been reported as myxosarcoma or myxoma,[2,5,9,11] but the clinical findings fit sarcoma botryoides and the striated muscle cells have not been sought or seen. McFarland collected seventy-seven cases of dysontogenetic bladder tumors; in sixty-one the patients were less than twenty-two years of age and almost all of the lesions were very soft. Higgins[6] reported a series of four cases.

Though Youngblood and associates[13] stated that the sex incidence is even, it would seem that males are afflicted in a frequency of 3:1. The age varies from that of the newborn, as in Hunt's[8] case, in which complete retention occurred at the age of five days, to twelve years, but most patients are less than four years of age. Adults have had rhabdomyosarcoma of the bladder, but apparently these were not sarcoma botryoides.

The prognosis has been given as uniformly bad. Only two children with such tumors have been reported as well two years after diagnosis. One of these, a boy, was well seven years after cystectomy, according to Flocks[3]; the other, described by Higgins, was a girl who was well two years and nine months after cystectomy. Higgins and associates[7] describe a "myxoma" which prolapsed through the urethra of a girl at birth; a ligature was applied. Cystoscopy at four weeks showed a scar at the region of the left ureteral orifice. Some "vesicles and thickening" were fulgurated upon two occasions. Four years later, the patient was well, and cystoscopy gave negative findings. Subsequently, the tissue was re-examined and found to be typical of rhabdomyosarcoma. Most patients are dead or dying of recurrence within a year, though Swinney's patient did not have recurrence until twenty-five months after definitive surgery. However, many authors have pointed out that the potential cure should be great, and it is probable that if the disease is understood, successful therapy will not be such an exception. It is imperative that those seeing the relatively few cases be familiar with the disease.

Symptoms are those of urinary obstruction, infection and hematuria. Obstruction occurs early. As one of the "grapes" tends to prolapse, giving obstruction, hematuria usually occurs at some time in the disease. In female patients, the masses may prolapse, and occasionally some "grapes" may be passed. Spasmodic pain from the obstruction to urination and prolapse of an edematous mass may be intense; pain may be due to secondary infection. The patient may have intermittent or continuous evacuation of urine or may have complete retention.

A mass is almost always present and is usually the distended bladder. After catheterization, the mass usually persists on bimanual palpation. It is moderately soft and somewhat movable, depending upon the state of the disease. The kidneys may be palpable due to ureteral obstruction. As already mentioned, there may be prolapse of a "polyp" through the urethra in the female patient, and, if the disease is extravesical, rapidly enlarging, edematous masses may protrude from the vulva or vagina. In a case described by Canard and Rivarola,[1] the urethra in a two-year-old girl had been so dilated by a prolapsing "polyp" that digital examination and biopsy of the bladder were feasible. The urine may be normal but usually shows red blood cells and pus. Fever may be present, and renal function is likely to be impaired in variable degree. The patient may be cachectic and show evidence of obstruction to venous and lymphatic return from the lower extremities.

X-ray examination should be performed by excretory urography, if the renal function allows. This will show the status of the upper urinary tract and, if function is adequate, give a satisfactory cystogram. If not, retrograde cystography will show a picture typical, but not well-known, in the roentgenologic or pediatric literature, as determined by my scanty perusal thereof. This appearance is of multiple filling defects, usually smooth and involving the base particularly and the prostatic urethra frequently. The lesions are sometimes described as "lacunar." As in Case 1, others have confused the filling defect picture with "rectal gas."

Cystoscopy is usually feasible in contrast to sarcoma of the prostate. Interpretation may be difficult because of the presence of bleeding and infection and the use of small instruments, but the picture should be diagnostic. Multiple, pearly white, semitranslucent polypoid structures are

seen. The region of the trigone and internal meatus almost always is involved. The appearance has been likened to hydatidiform mole, and Canard and Rivarola compared the bladder to the inside of a hydatid (echinococcus) cyst filled with daughter cysts. Transurethral biopsy should be done to verify the clinical diagnosis so that one will have pathologic backing to bolster one's courage for the necessary undertaking in a young child. The bladder should not be opened. The grapelike masses may be cut or broken off without fear of untoward bleeding and are diagnostic pathologically.

The differential diagnosis should include polyps of the verumontanum. If there is a question of the lesion's nature, resection rather than fulguration only should be done so that material for biopsy may be obtained and an early lesion discovered. Edema from adjacent processes such as an appendiceal abscess may be confusing. An ureterocele, which may prolapse through the female urethral meatus, or which may be inflamed, edematous and located intravesically, must not be mistaken for botryoid sarcoma.

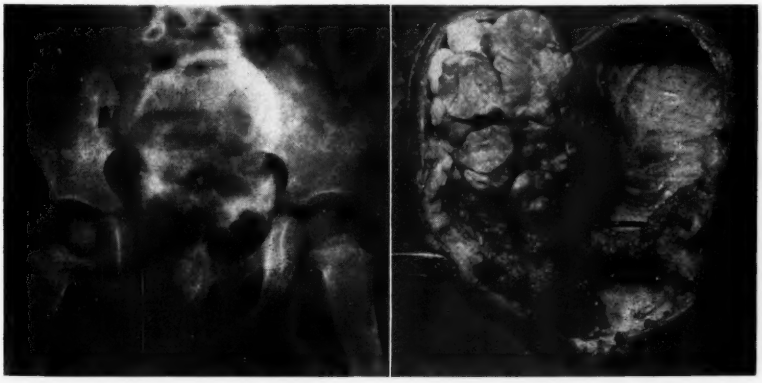


Fig. 1. *(left)* Case 2. Excretory cystogram. Note smooth filling defects in the bladder, particularly at the region of the internal meatus, and the dilated posterior urethra with filling defects.

Fig. 2. *(right)* Case 2. Frontal section of the bladder, fixed in distention. The ureteral catheter identifies the position of the ureteral orifices. Note tumor nodules in the prostatic urethra.

Report of Cases

Case 1.—A fifteen-month-old white girl was hospitalized March 12, 1948. "Vaginal prolapse" was first noted in December, 1947; in January, 1948, "prolapsing bladder mucous membrane" was partially excised and the remaining portion reduced. Two days prior to admission, there was prolapse of the rectum and what was believed to be uterus; again "bladder mucosa" protruded. No complaints referable to voiding were noted, but the rectal prolapse was probably due to straining to urinate.

Examination revealed a large firm purplish mass protruding from the vulva. The next day an observer stated the mass had increased no less than four times in size. Blood urea nitrogen was 24 mg. per 100 cc. Catheterized urine was normal except for 1+ pus cells. Excretory urography showed bilateral hydronephrosis and hydroureter and deformity of the bladder base believed due to rectal gas.

At cystoscopy, the urethra was found posterior to the vulval mass; the meatus was not dilated and no mass protruded from it. There was marked edema of the anterior bladder wall at the internal meatus. Trabeculation was present in the fundus. The right ureteral orifice was identified, but not the left. The vulval mass seemed attached by a broad stalk of tissue going anterior to the urethra. There was thickening noted on rectal examination. The vesical changes were interpreted as secondary to extravesical tumor, and biopsy of the mass showed malignant mixed tumor, predominantly myxoma. The retrograde cystogram, in retrospect, was quite typical of botryoid involvement near the internal meatus.

On March 19, the large lesion anterior to the urethra was dissected upward, displacing the bladder posteriorly. The tumor fanned out in a sheet across the anterior bladder wall; biopsy at the line of excision resulted in a diagnosis of myxosarcoma. The excised mass measured 3.5 x 3 x 2 cm. and the bladder was then felt to be 4 x 3 x 2 cm. with thickening out of proportion to hypertrophy. Botryoid sarcoma was then believed to be the diagnosis; since involvement extended beyond the bladder, total excision was not deemed feasible. It is probable that the lesion spread to the retropubic area from the vulva rather than by penetration of the urinary tract.

On April 6, 1948, transverse colostomy was done by Dr. David State, and the bladder was estimated at 5 x 3 x 2 cm. One month later, he removed the bladder, uterus, vagina and vulva, transplanting the ureters to the sigmoid. Two peritoneal nodules were present over the bladder, and several nodes were involved with tumor.

The specimen showed a large fungating tumor composed of grayish-yellow, somewhat rubbery tissue. Penetration occurred through half of the bladder wall. There was a tumor nodule measuring 2 x 1 x 1 cm. in the vagina. Microscopic examination showed spindle cells of fairly uniform size in a stroma that in some areas was fibrous and in some areas myxomatous.

The girl was discharged on May 18, 1948, and was readmitted in August, 1948, because of prolapse of the

colonic stoma. Recurrence was noted on rectal palpation; the child died in February, 1949.

Case 2.—A two-year-old white boy was first seen on January 16, 1953. Two months previously, he had mild hematuria, and an excretory urogram was presumably negative. From that time on, he had variable but progressive difficulty in voiding, and at the time seen he was dribbling almost continually. At times, pain seemed rather intense and he awakened from sleep in pain. He would rub his penis and cry. Fecal incontinence occurred with straining to void.

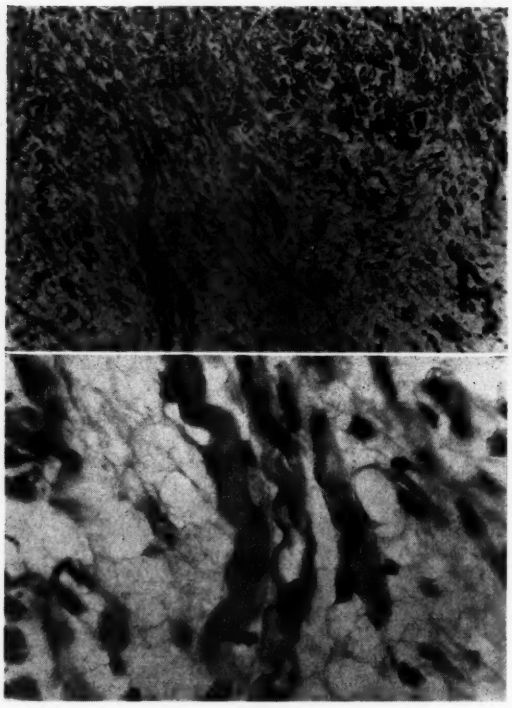


Fig. 3. *(above)* Case 2. Low-power view of the tissue, myxomatous below and more cellular above; acidophilic bands are prominent.

Fig. 4. *(below)* Case 2. High-power view showing myofibrillae and cross striations.

Examination revealed a palpable tender bladder. The urine contained 2+ albumin, a few red blood cells and packed fields of leukocytes. Excretory urography demonstrated slight dilatation of the lower ureters and a typical cystogram (Fig. 1).

At cystoscopy, landmarks were difficult to recognize. The typical white grape-like masses were present, mainly in the anterior wall and surrounding the internal meatus. There was trabeculation and cellule formation in the fundus and base. Several small masses were excised for biopsy. A moderately soft mass extending well toward the umbilicus was present on bimanual palpation.

Microscopic examination showed a markedly edematous stroma and chronic inflammatory exudate in the submucosa. In this stroma were thick pink-staining bands with cross striations in some.

On January 23, 1953, prostatovesiculocystectomy and regional lymphadenectomy were performed. The urachus was severed at the umbilicus; the urethra was divided 2 cm. below the prostatic apex. The ureters were transplanted to the rectosigmoid in a modified Leadbetter manner, leaving a rather long loop of sigmoid proximal to the anastomosis so that terminal colostomy might be performed later. The child's bladder is more intraperitoneal than the adult's, facilitating cystectomy somewhat

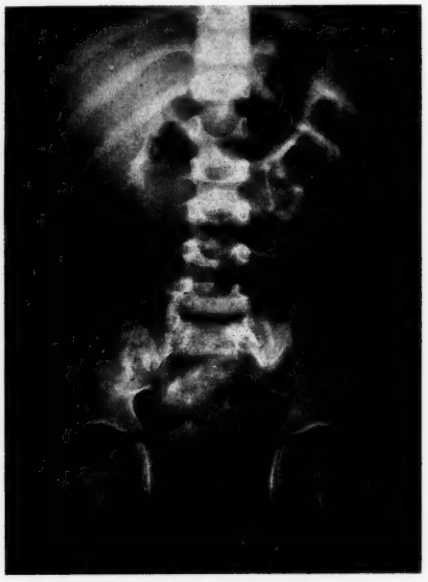


Fig. 5. Case 2. Excretory urogram 6 months after operation.

Pathologic examination showed diffuse involvement of the bladder and posterior urethra (Fig. 2) and one nodule in an intramural ureter. Sixteen identified nodes showed no evidence of malignancy. The microscopic picture was similar to that of the material removed for biopsy (Figs. 3 and 4). Invasion of muscle was not seen.

Convalescence was uneventful. An excretory urogram on the fourteenth postoperative day was normal, and the patient was dismissed the next day.

The boy was seen June 17, 1953. Blood chemical values and the urogram were excellent (Fig. 5), and the only suspicious finding was a small nodule at the site of one of the stay sutures. This was excised and a stitch abscess with a bit of silk was found. Bimanual examination and palpation of the urethral bulb gave negative findings. The grandparents reported that in January, 1954, the boy was well and prospering. Terminal colostomy is planned later.

Comment

In almost all instances of this disease, the urinary tract has been opened prior to definitive surgery, and the speed and magnitude of local recurrence are impressive. Renal function was destroyed or the disease had extended prior to seeking medical care at times. A high index of suspicion is essential to early diagnosis. This disease seems to be a clinical entity, and from the cystogram, cystoscopy and palpation under anesthesia, diagnosis should be accurate. Cystoscopic biopsy is feasible, but suprapublic biopsy is contraindicated.

Prompt cystectomy, including the urethra in female patients, the prostate, seminal vesicles and a liberal portion of adjacent urethra in male patients and a segment of adjacent ureter in both, should be performed. In female patients, the uterus and at least the upper half of the anterior vaginal wall probably should be excised. The method of urinary diversion is another subject. Irradiation is ineffectual and is thought by some to stimulate the tumor to more rapid growth; fulguration has the same reputation.

Summary and Conclusions

1. Two cases of sarcoma botryoides have been reported: One patient died, whereas the second patient was well eleven months following radical cystectomy.

2. Sarcoma botryoides or polypoid rhabdomyosarcoma of the bladder in children seems to be a clinical entity and the descriptive former term is suggested as perhaps more appropriate in stimulating earlier recognition of the disease.

3. Familiarity with the nature of the lesion should lead to early diagnosis.

4. Opening the bladder or cutting into the tumor usually is followed quickly by massive local recurrence.

5. Radical cystectomy should be undertaken forthwith, including a liberal proportion of the adjacent urethra and ureters.

6. The prognosis of the tumor should not be as bad as the statistics to date would indicate.

7. It is believed that sarcoma of the prostate is the same lesion with a different gross appearance.

Addendum

The second patient (Case 2) was well when last seen, June 30, 1954.

References

1. Canard, R. de S., and Rivarola, J. E.: Bladder tumor in children. Report of three cases. J. Urol., 69:272-281 (Feb.) 1952.
2. Deming, C. L.: Primary bladder tumors in the first decade of life. Surg., Gynec. & Obst., 39:432-442, 1924.
3. Flocks, R. H.: Personal communication.
4. Grier, E. A., and Phillips, F. L.: Rhabdomyosarcoma of the prostate. J. Urol., 69:695-702 (May) 1953.
5. Hanbury, W. J.: Rhabdomyosarcomatous tumors of the urinary bladder and prostate. J. Path. & Bact., 64:763-773, 1952.
6. Higgins, T. Twistington: Rhabdomyosarcoma of the bladder. Brit. J. Urol., 24:158-159 (June) 1952.
7. Higgins, T. Twistington, Williams, D. I., and Nash, D. F. E.: Urology of Childhood. London: Butterworth & Co., Ltd.
8. Hunt, R. W.: Rhabdomyosarcoma of the lower urinary tract. New York State J. Med., 43:513-517 (March) 1943.
9. McFarland, J.: Dysontogenetic and mixed tumors of the urogenital region. Surg., Gynec. & Obst., 61: 42-57, 1935.
10. Mostofi, F. K., and Morse, W. H.: Polypoid rhabdomyosarcoma (sarcoma botryoides) of the bladder in children. J. Urol., 67:681-687 (May) 1952.
11. Ober, W. B., and Edgcomb, J. H.: Sarcoma botryoides in the female urogenital tract. Cancer, 7:75-91 (Jan.) 1954.
12. Swinney, J.: Rhabdomyosarcoma of the urinary bladder in children. Urol. & Cutan. Rev., 55:530-534 (Sept.) 1951.
13. Youngblood, V. H., Banks, R., Jr., and Denney, E. E.: Rhabdomyosarcoma of the bladder. J. Urol., 67:957-961 (June) 1952.

RETREATMENT OF CERVICAL CANCER

Two Mayo Clinic radiologists have published a review of results in *retreatment* of cervical carcinoma.

Their conclusion: "The impression that prognosis is largely determined at the time of primary diagnosis and treatment is partially refuted."

The two doctors are Martin Van Herik and Robert E. Fricke, from the section of therapeutic radiology at the Mayo Clinic. Their review and report appears in the March issue of the *American Journal of Roentgenology, Radium Therapy and Nuclear Medicine.*

One hundred and ten patients with recurrent cancer of the cervix, treated by irradiation, during 1940 to 1947 were studied. Of the entire group: twenty-five patients (22.7 per cent) lived more than three years following treatment for the recurrence; eighteen patients (16.4 per cent) lived more than five years.

"This result is far from excellent, but it is sufficient to refute partially the impression that the prognosis is largely determined at the time of primary diagnosis and treatment," report Drs. Van Herik and Fricke.

"Furthermore, detailed study of the records of our patients who did not survive at least three years following treatment for recurrence reveals that in a great many cases a worthwhile palliation was achieved," they add.

The Southern Minnesota Medical Association

WILLIAM C. BERNSTEIN, M.D.
Saint Paul, Minnesota

A PRESIDENTIAL address which is to be delivered as an after-dinner speech must of necessity be conceived and written with the proverbial two strikes against it. I have listened to many presidential addresses at this and at other meetings, and I am well aware of the necessity for brevity and alacrity in order that the speaker remain in the good graces of his audience. I shall try to remain in your good graces.

This has been a most pleasant year for me. To have served as your president and to have had the privilege of working closely with the other officers and committee members has been an honor and a pleasure which I shall long cherish. I completed my internship at the Ancker Hospital in Saint Paul and then began the practice of medicine at New Richland in Waseca County in 1928. In 1929, I became a member of the Southern Minnesota Medical Association and read my first paper at the annual meeting which was held in Mankato. I am therefore, in 1954, celebrating my silver anniversary as a member of this organization by speaking to you as your president.

The Southern Minnesota Medical Association has played a most significant role in my professional career. It provided me with the opportunity through the years not only to listen to many outstanding medical speakers, but to read papers, report cases and participate actively in the affairs of this dynamic medical society. It has given me the inspiration, which is so vital in a young medic's life, to work towards higher goals. What membership in this organization has done for me, it can do for every young physician who practices in southern Minnesota. This society actively solicits the interest and participation of its younger members. The officers of this society are most happy to have papers submitted by all of its members. The program committee works zealously to build a program that will interest everyone and which will stimulate others to submit papers for future meetings. I urge our membership to be active members in the society. Our organization, since its inception, has been a vital force in Minnesota medicine, and from the quality of the program which was presented here today, there can be no doubt as to the future status of this organization.

It may be of interest to point out a few important historical facts concerning the Southern Minnesota Medical Association. Dr. Monte C. Piper of Rochester delivered an address on this subject at the meeting in 1935, and I have selected a few interesting details from his paper. We are meeting today in the city which witnessed the birth of this society on July 28, 1892. The letters inviting the doctors in this area to an organization meeting were sent out by a group of Rochester physicians. Thirty-five physicians attended, and the association was founded on that day. The committee on permanent organization consisted of Drs. W. T. Adams of Elgin, W. J. Mayo of Rochester and J. B. McGaughey of Winona. The dues were fifty cents a year. The first paper was presented by Dr. McGaughey on "Cerebrospinal Meningitis"; the second paper was by Dr. W. J. Mayo on "Less Common Forms of Surgical Tuberculosis."

Twelve years before the organization of the Southern Minnesota Medical Association, the Minnesota Valley Medical Association was organized at Le Sueur on December 1, 1880. This society adopted the by-laws of the Ramsey County Medical Society as a foundation for its government. Dr. Otis Ayer of Le Sueur was honored by being chosen the first president.

At a joint meeting of the Minnesota Valley Medical Association and the Southern Minnesota Medical Association held in Rochester in 1911 the two societies amalgamated, and the Southern

Presidential address presented at the annual meeting of the Southern Minnesota Medical Association, Winona, Minnesota, September 13, 1954.

Minnesota Medical Association as its exists today came into being. The Minnesota Valley Medical Association which had existed for thirty-one years contributed 105 members, while the Southern Minnesota Medical Association which was nineteen years old contributed 115 members. Dr. L. A. Fritsche of New Ulm was elected president of the amalgamated societies.

As the Southern Minnesota Medical Association grew in scope and influence, rumors arose that this society was a threatening rival to some of the larger medical organizations. Talk of further expansion and competition with the Minnesota State Medical Association and the Tri-State Medical Association was put to an end by Dr. W. J. Mayo in 1919 when he stated, "Dr. Andrews has said that the association is equal to, if not greater than, the state association. I want to say to you, members of the Southern Minnesota Medical Association, that this should not be true, that every man who is here is potentially a member of the state medical association, and he should attend the meetings of the state medical association as the representative body of the state. After all, we are a local society, but we have great traditions."

I believe that time has proved the wisdom of Dr. Mayo's admonitions. This society is a local, nonpolitical organization which fills a definite need in the professional life of the physicians in southern Minnesota. We encourage the preparation and presentation of scientific papers; we encourage higher scholastic attainments in medical school by our annual awards to the most outstanding senior. We encourage scientific exhibits at the annual meeting of the Minnesota State Medical Association by awarding a medal for the best scientific exhibit, and we are an organized unit to enhance the quality of medical and nursing care in Minnesota.

Anyone who has listened to the wide variety of excellent papers presented at our meeting today must be impressed with the facts that we are now discussing many subjects almost undreamed of twenty years ago, such as, "Radio-isotopes in Diagnosis," "Cortisone Therapy," "Pulmonary Hypertension" and others. Also, of course, it is no longer possible for one person to be well informed on all phases of medicine. Dr. Aura E. Severinghaus, writing in a recent issue of *The Journal of the American Medical Association,* said, "The first half of this century will always be known as 'a scientific age.' Among the major accomplishments of science, history will record the conquest of disease. Progress in this area has been spectacular beyond all expectation. With it has come, however, an almost staggering expansion of our scientific knowledge. More than ever before it has become necessary for those who wish to keep professionally informed to increase their scientific information. More than ever before it has become obvious that no person should even attempt to encompass the entire body of facts. This has naturally increased the emphasis on science in the future physician's education and resulted as well in a high degree of specialization in today's medical practice. The end is not yet in sight. I am reminded of a friend who recently hailed a taxicab in front of the Bureau of Archives in Washington. As the cab drew up he was still repeating audibly the inscription over the front entrance, 'The Past is but a Prologue.' 'Do you know what that means?' he said to the driver, and, as is characteristic of Washington cab drivers, the driver quickly replied, 'Yes sir, that means you ain't seen nothin' yet.'"

I would like now to make some comments relative to the practice of medicine in Minnesota in general and in southern Minnesota in particular. It is well to take inventory once in a while to evaluate our own assets and our own liabilities or shortcomings. I am certain that no one would contradict me when I state that the standards of medical practice in this section of our country are of the very highest. I know of no area where medical practice, be it of the general practitioner in the small community or of the specialist in the larger city, is on a higher plane. I know of no place in this entire country where postgraduate courses, tailored to fit the needs of the physicians practicing in the state, are made so readily available. Is there a reasonable explanation for this situation? The answer, I am sure, lies in the presence in our midst of two of the world's greatest institutions of medical teaching and research, namely, the University of Minnesota Medical School and the Mayo Clinic with its associated Mayo Foundation. Those of us who practice so close to these institutions of world renown begin, after a while, to take them for granted and to disregard the enormity of the

roles played by them in medical progress. Need I mention more to you than the contributions of Hensch and his co-workers at the Mayo Clinic in the development of cortisone, and the epoch-making advances in cardiac surgery recently announced at the University of Minnesota Hospitals, to remind you of the atmosphere in which all of us live and practice? We are sometimes blinded by our proximity and, to use a trite expression, we fail to see the forest for the trees. We need but to travel to other states or other countries to be impressed with the overwhelming stature of these two institutions. How often do we hear or participate in derogatory discussions concerning these institutions? Would anyone have to stretch his imagination to believe or to admit that medical practice has attained its high level here because of the influence of our great medical centers? Could one dare to imagine what would happen to the standards of medical practice in this area were we to lose one or the other —or both—of these institutions? We who practice here are the beneficiaries of one of the richest medical legacies in history. Let us not treat our legacy too lightly.

The practice of medicine in Minnesota is different in other ways, too, from the practice of medicine in some other locales. We hear too often of contending factionalism and of bedeviling provincialism in medical practice. Fortunately for us, we experience few of these evils in Minnesota. The spirit of co-operation at hospital staff and county society levels is everywhere apparent. I believe that few states can boast of better records in this regard.

I would be amiss in my responsibilities, however, if I did not point out one of our most flagrant shortcomings. It is a well-known fact that Minnesota ranks high in the incidence of malpractice suits. It is paradoxical that this should be true. Our state society has had a hard-working committee assigned to this problem for many years. The situation has shown little improvement thus far, and our medical malpractice insurance rates continue to rise. Everyone seems to be agreed that most suits are initiated or encouraged by misdirected remarks on the part of other physicians. This problem can and must be corrected if we are to maintain a position where we can use our initiative in treating patients without having the threat of malpractice forever dangling over us.

One of the great problems facing the medical profession here and elsewhere is the shortage of nurses. It is interesting and gratifying to learn that the situation in Minnesota is not as bad as it is in many other states and that our schools of nursing are turning out more nurses in all categories than in previous years. Although Minnesota ranks eighteenth among the other states population-wise, it ranks fifth in the number of nurses it turns out. Hospitals are learning that many duties can be delegated to non-professional personnel and that the nursing team consisting of a registered nurse, a practical nurse and several nursing aides can function well as a unit in caring for large numbers of patients. We are fortunate in having progressive and mature leaders to encourage and educate large numbers of young women for nursing careers. The outlook for the future is brighter than it has been for many years. This society has a very active committee on nursing which has made some valuable contributions to the nursing program.

In conclusion, may I once again urge the younger men to participate actively in the affairs of this society and may I impress upon you the privilege which is yours of practicing medicine in an area where the light of medical learning and of high standards of practice and ethics shines so brightly upon all the members of our profession.

References

1. Piper, Monte C.: Historical notes on the Minnesota Valley Medical Association and the Southern Minnesota Medical Association. Minnesota Med., 18:491-499 (Aug.) 1935.
2. Severinghaus, Aura E.: Expanding horizons in medical education. J.A.M.A., 155:5:417 (May 24) 1954.

Puerperal Psychoses

E. M. HAMMES, JR., M.D.
Saint Paul, Minnesota

ACUTE psychotic symptoms develop as a complication after pregnancy about once in every 600 deliveries. The frequency varies slightly with different authors, due to different criteria for diagnosis. Prior to the advent of obstetrical asepsis and antisepsis and the development of antibiotics, mental illness occurred much more frequently, due to the high incidence of toxic delirium associated with puerperal sepsis. In the present era toxic reactions are rare, and the clinical picture in the psychoses after childbirth is that of a depression, schizophrenia or occasionally a manic reaction. As a result, the clinical course of these illnesses in modern times is prolonged but the mortality is low. In the puerperal toxic psychoses of an earlier day the patient recovered or died very promptly. Today the mortality results from an occasional suicide, or more rarely from catatonic or manic exhaustion.

There is a tendency to drop the term "postpartum psychosis" from current literature. Modern psychiatric textbooks devote little or no space to it, apparently preferring to classify these illnesses with the usual functional psychoses. This we feel is a mistake. The terms postoperative and involutional psychosis are commonly and properly used, and the diagnosis postpartum psychosis should be likewise preserved. We feel that there are differences between the postpartum and other psychoses which warrant their being classified as an entity. The illness carries a distinct threat to the newborn infant and, in addition, differs in its course, prognosis and frequency of recurrences, in comparison with other "functional" psychoses. These differences should be emphasized, and can be done so only if the postpartum psychoses are classified in a separate category.

The term postpartum psychosis should be reserved for those cases which meet all the following three criteria: (1) The onset of symptoms is during the first six weeks after the termination of a known pregnancy—the common obstetrical definition of the puerperium. (2) The patient has no past history of other psychotic reactions. A previously schizophrenic or manic-depressive patient who has a relapse after delivery cannot properly be classified in this group; however, recurrences of the disease after succeeding pregnancies can occur and are consistent with the diagnosis. (3) The patient must have an actual psychosis. This eliminates the more common, often transient, exhaustion syndromes and neurotic reactions which occur at this period.

We have reviewed our experience over the last several years with forty-three cases of this condition, in an attempt to find some indication which would make possible the detection during pregnancy of the woman who will develop a postpartum psychosis, as a step toward prevention of this complication. Our patients were compared with two groups of controls. The first consisted of psychotic married women of the same age distribution, whose mental illnesses developed unrelated to pregnancy and delivery. In comparing our patients with this group, no differences could be found in the age of marriage, age of childbirth, family history of psychoses, position of the patient in her sibling pattern, prepsychotic personality traits, educational background or frequency of environmental stresses. In each group there was a family history of mental illness in about 30 per cent of the patients. In both the postpartum group and this control group, about one-half of the patients had a prepsychotic personality considered to be normal and well adjusted by their families; the balance were described variously as "excessively nervous," withdrawn or overly meticulous and perfectionistic.

The second control group consisted of a series of married women in the same age range, who had no psychotic symptoms. These were for the most part patients with organic neurologic disease.

Presented at the annual meeting of the Southern Minnesota Medical Association, Winona, Minnesota, September 13, 1954.

In comparison with this group appreciable differences were seen in the family history of psychoses and in the personalities of the patients. Only four of these forty-three control patients had a posi-

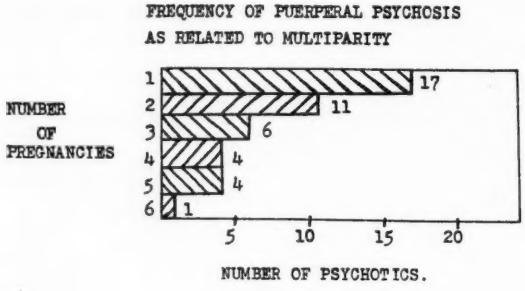


Fig. 1.

tive family history of mental illness, and twenty-nine were considered to have stable and well-adjusted personalities.

The patient who is destined to have a postpartum psychosis is more likely to have a history of mental illness in her family and a past history of an unstable personality than is a non-psychotic woman. But these factors occur with about equal frequency in women who develop psychoses not related to parturition. Thus one can predict a postpartum psychosis in a pregnant woman with about the same degree of accuracy as one can predict a functional psychosis before it occurs. This agrees with the statement of Strecker et al[1] that the puerperal period may precipitate a psychosis, especially if there is evidence in the patient's personality makeup of either manic-depressive or schizoid tendencies.

Puerperal psychoses occur rarely following abnormal pregnancies or premature deliveries. In thirty-nine cases the pregnancy and labor were entirely normal. One patient had a cesarean section and one a postpartum hemorrhage following which the patient's hemoglobin dropped to 40 per cent. Toxemia of pregnancy occurred in the two other complicated cases. Of these one occurred antepartum and was mild. The other patient had severe eclampsia with convulsions immediately postpartum, and the associated psychosis was toxic in type. In each of the 49 psychotic episodes which occurred in these 43 patients the pregnancy resulted in a living, healthy child born at full term. There was no instance in this group of a postpartum psychosis developing after an abortion, miscarriage, premature labor, stillbirth, or after the delivery of a deformed or abnormal baby. These forty-three women have had a total of 126 pregnancies. Of these, twelve have ended tragically with a dead or deformed infant without a single instance of puerperal psychosis. The remaining 114 pregnancies, which all resulted in apparently normal children, were followed in forty-nine instances by mental illness. While the series is too small to permit definite conclusions statistically, it does suggest that death or deformity of the child does not predispose to the development of a puerperal psychosis and may actually decrease the possibility of a mental illness after delivery.

The likelihood of a puerperal psychosis is greater in primiparas and early multiparas than it is in women who have had several pregnancies. Of the forty-three women, seventeen were primiparas, and thirty-four developed their first psychosis after one of the first three pregnancies. There was one patient whose mental illness did not develop until after the sixth pregnancy (Fig. 1). The various types of psychoses occur in about the same ratio as do the usual functional psychoses in this age group. The implication is that whatever role the pregnancy and delivery may play in precipitating the illness, the type of mental reaction which results is determined by the patient's own personality makeup and by other factors unrelated to the pregnancy. Our patients included eighteen with depression, one with a manic psychosis, fifteen with schizophrenic reactions, eight with disorders which were classified as schizo-affective, and one with toxic delirium. As a group they showed a pronounced tendency toward suicidal impulses and toward homicidal threats against the newborn infant. Eight of the patients were considered suicidal risks, and six expressed definite desires to harm their babies. These two factors place a great responsibility on the obstetrician in the early recognition of psychotic symptoms and the prompt protection of the mother from harming herself or her child.

Results of Treatment and Follow-up

On the whole the prognosis for recovery from puerperal psychoses is gratifying and better than the average for the usual functional psychoses in this age group. Five of the patients were not hospitalized, either because the family refused it or

because the illness was mild enough to permit out-patient treatment. Of these five, four made steady improvement to recovery and one a social remission. A two- to five-year follow-up of four of these patients shows that three are well at the present time and the other is at home in partial remission. The remaining patients concerning whom we have treatment and follow-up data had long and stormy hospital courses, often with frequent relapses but with good ultimate prognoses.

We have been able to follow twenty-eight patients for from one to eight years after their illnesses. Three of these (all schizophrenic) are still in hospitals and must be considered permanently mentally ill. Seven patients are able to be at home and to carry on a partially normal life, but are still having mild symptoms. The remaining eighteen patients recovered and have maintained their recovery to the present time (Table I).

TABLE I. FINAL RESULTS
1 to 8 Year Follow-up

Type of Psychosis	Recovered	Improved (Home)	Unimproved (in Hospital)
Depression	8	2	
Manic	1		
Schizophrenic	7	3	2
Schizo-affective	2	1	1
Toxic		1	
Total	18	7	3

The question of recurrence of mental illness in patients after having once had a puerperal psychosis is invariably asked by the patient and her family. Of the twenty-eight patients we have followed, only ten have had more children, and one of these had a second postpartum psychosis. Two additional patients have had subsequent psychotic reactions unrelated to pregnancy and both recovered.

Reviewing the entire reproductive history of the group, we find thirty-seven women who had two or more pregnancies. Of these, six have had postpartum psychoses on two occasions. Thus there appears to be about one chance in six of the disease reappearing in a subsequent pregnancy. Compared with the average incidence of once in 600 pregnancies, the chances of a postpartum psychosis are about 100 times greater in a woman who has been psychotic following an earlier pregnancy than they are in a woman without such a history. Obviously great caution must be taken in advising a patient about further children after she has had such an illness.

Conclusions

Puerperal psychoses are most likely to occur in women with family histories of mental illnesses and past histories of unstable personalities. The disease occurs most commonly following the first three pregnancies, but may not appear until after the sixth pregnancy. An uneventful pregnancy, with normal labor and the birth of a healthy child, is no protection against the development of puerperal psychosis. The clinical picture is that of any of the usual functional mental illnesses. The disease carries a distinct threat of suicide and of homicidal impulses against the newborn infant. The prognosis for recovery is good, usually after a prolonged and stormy hospital course. The chance of a recurrence in subsequent pregnancies is about one in six.

Reference

1. Strecker, E. A.; Ebaugh, F. G., and Ewalt, J. R.: Practical Clinical Psychiatry. 7th ed., p. 199. Philadelphia: Blakiston, 1951.

BENIGN STOMACH ULCERS

The actual incidence of benign ulcers of the greater curvature of the stomach may be much higher than the reported cases—despite statements that this benign type of ulcer is rare in comparison to malignant ulcers in similar location.

This is the suggestion of Dr. Frank S. Browne, radiologist from Wichita Falls, Texas, in the March issue of the *American Journal of Roentgenology, Radium Therapy and Nuclear Medicine.*

He reported a patient in whom most of the characteristics associated with carcinoma were present, yet microscopic examination revealed a benign peptic ulcer.

The ulcer itself had been discovered during an x-ray examination of the gastrointestinal tract.

"Verbal reports from numerous observers would indicate that the actual incidence of benign greater curvature ulcer is much higher than reported cases," concludes Dr. Browne.

Psychiatric Illness Following Gastric Resection

JOHN J. REGAN, M.D. and
CLARENCE J. ROWE, M.D.
Minneapolis, Minnesota

THE role of emotional factors in the etiology of peptic ulcer has been the subject of much theorizing and of some objective research. Investigators from the time of Beaumont have made observations on changes in gastric function under a variety of emotional stresses. Despite these observations the precise mechanism of ulcer production following stress has not been formulated. However, it seems to us that the studies of such investigators as Alexander,[1] Szasz,[4,5] and Mahl[3] suggest a basis for proper dynamic treatment of peptic ulcer patients and point the way toward research which can throw additional light on the problem.

We are concerned here with ten patients who were seen on the wards of the University of Minnesota Hospitals for psychiatric treatment or consultation and who gave a history of previous gastrectomy. These are consecutive unselected cases collected during the past two years. So far as we can determine from a review of the literature, there is only one report which considers the results of this surgical procedure in terms of total social and emotional adjustment. That is, Browning and Houseworth's[2] study of sixty duodenal ulcer patients, thirty of whom were gastrectomized and thirty of whom were treated medically. The gastrectomized group showed a reduction of ulcer symptoms but a marked increase of psychosomatic and psychoneurotic symptoms. In the medically treated group the reduction of ulcer symptoms was less dramatic but there was no increase in psychosomatic or psychoneurotic symptomatology. In addition long term follow-up demonstrated an increase in psychogenic disturbances and organic difficulties in the post-gastrectomy group as compared to the non-gastrectomized group. In light of total ability to get along in the world, the thirty gastrectomized people were less well off than the thirty who were managed medically.

TABLE I.

Patient	Age	Sex	Diagnosis	Indication for Surgery	Adjustment Prior to Resection
1	47	F	Psychophysiological gastro-intestinal reaction	Peptic ulcer	Inadequate
2	49	F	Drug addiction. Psychoneurotic reaction, mixed	Peptic ulcer	Poor
3	56	M	Depressive reaction	Peptic ulcer	Adequate but markedly hypochondriacal
4	37	F	Depressive reaction	Peptic ulcer	Adequate
5	54	M	Depressive reaction	Peptic ulcer	Nervous breakdown, age 40. Good recovery
6	38	M	Depressive reaction	Peptic ulcer	Adequate
7	57	M	Depressive reaction (psychotic)	Peptic ulcer	Adequate
8	41	M	Depressive reaction	Peptic ulcer	Poor
9	50	F	Paranoid state	Esophagitis	Adequate
10	59	F	Catatonic reaction	Esophagitis	Adequate

The ten patients we are reporting had gastrectomies by several surgeons in various hospitals from three days to nine years before we saw them (Table I). Of the total, eight patients had psychiatric difficulties which from history seemed clearly related to the gastric resection. Of the eight, six were depressive reactions, one was a catatonic reaction and one a paranoid reaction. The six depressive reactions occurred in patients who had gastrectomy for peptic ulcer. The catatonic reaction occurred in a woman who had a gastric resection for severe esophagitis and the paranoid reaction in a woman who had a gastric resection for esophageal obstruction. Two of the ten patients had emotional illness which was apparently unrelated to the gastrectomy. One of these (Case 2) had a history of long-standing, severe neurotic difficulty including dependence on drugs and the other (Case 1) was a Latvian refugee who had a history of intense,

Dr. Regan is psychiatrist, Veterans Administration Hospital, Minneapolis, and clinical instructor, Department of Psychiatry, University of Minnesota.
Dr. Rowe is director, Hamm Memorial Psychiatric Clinic, Saint Paul, and clinical assistant professor, Department of Psychiatry, University of Minnesota.

early deprivation, plus repeated exposures to severe emotional trauma during the occupation of her homeland by hostile forces.

The Minnesota Multiphasic Personality Inventory was administered to nine of the patients. All profiles were abnormal. Six profiles showed patterns commonly found in people with depressive reactions, *i.e.*, primary elevations on the left side of the profile with the apex at D and a secondary elevation on the right side with the apex at Pt. Figure 1 shows the average profile of the depressed group. These profiles were on the patients who had gastric resections because of peptic ulcer and are no different from profiles of patients with depressive reactions unassociated with gastrectomy. Two of the profiles have in common a V configuration on the first three scales which is characteristic of neurosis with hysterical features (Fig. 2). These profiles occurred in the two cases (1 and 2) who had peptic ulcer, long histories of severe neurotic difficulties and in whom the psychiatric illness did not seem related to the gastrectomy. The profile of the patient who had a paranoid reaction was one which is usually considered psychotic. No profile was obtained on the patient who had the catatonic reaction.

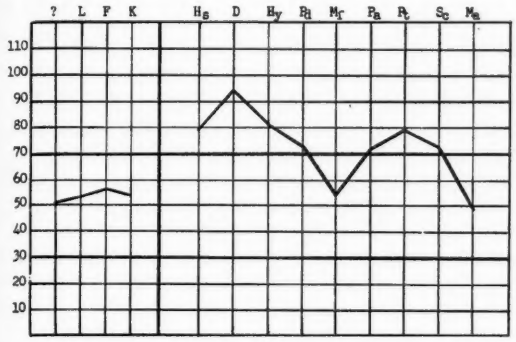


Fig. 1. Average MMPI profiles of the six cases with depressive reactions related to gastrectomy. (Cases 3-8, inclusive)

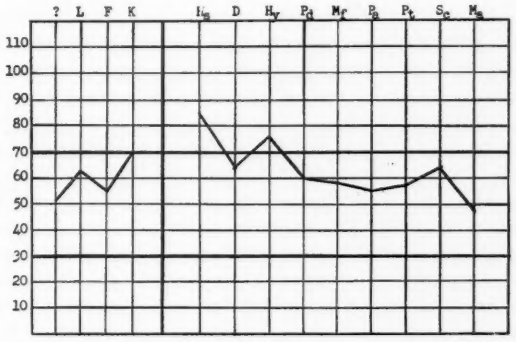


Fig. 2. Average MMPI profiles of the two cases in whom psychiatric illness was not related to gastrectomy.

Summary

We have reported ten patients who had psychiatric illness and gave a history of previous gastric resection. In eight of the cases, psychiatric illness seemed clearly related to the resection. Six of these were depressive reactions and occurred in patients who had resections for peptic ulcer. The two non-depressive psychotic reactions followed resections for conditions other than peptic ulcer. Two patients had psychiatric illness seemingly unrelated to gastrectomy.

Conclusions

1. It appears to us that gastric resection bears a psychiatric morbidity which is generally unrecognized and which to our knowledge has not been reported previously.

2. From this admittedly small group of cases, it seems that the psychiatric reaction to this surgical procedure is different in ulcer and non-ulcer patients.

3. The evaluation of gastric resection, as well as other surgical procedures, in terms of subsequent emotional and social adjustment, is an area insufficiently investigated and deserving of further study.

References

1. Alexander, F., et al: The influence of psychologic factors on gastrointestinal disturbances: A symposium. Psychoanalyt. Quart., 3:501, 1934.
2. Browning, J. and Houseworth, J. H.: Development of new symptoms following medical and surgical treatment for duodenal ulcer. Psychosom. Med., 15:328, 1953.
3. Mahl, G. F.: Anxiety, HCl secretion and peptic ulcer etiology, Psychosom. Med., 12:158, 1950.
4. Szasz, T. S., Levin, E., Kirsner, J. B. and Palmer, W. L.: The role of hostility in the pathogenesis of peptic ulcer. Psychosom. Med., 9:331, 1947.
5. Szasz, T. S.: Factors in the pathogenesis of peptic ulcer. Psychosom. Med., 11:300, 1949.

Medico-Legal Relations

A Joint Report

GORDON R. KAMMAN, M.D., and
DAVID W. RAUDENBUSH, LL.B.
Saint Paul, Minnesota

At the request of President Wallace Ritchie, the attention of the Legislative Committee of the Ramsey County Medical Society during 1954 was directed to a study of medico-legal matters, especially those pertaining to expert opinions in personal injury suits.

The President of the Ramsey County Bar Association, Mr. Frank Hodgson, was asked to appoint a committee from the Bar Association to meet with the committee from the Ramsey County Medical Society, and during the summer a number of joint meetings were held.

The report of this Joint Committee is presented herewith.

THE Joint Committee on Medico-Legal Relations has held three evening meetings to discuss topics of common interest proposed by the medical members and lawyer members at separate meetings. In addition, the full committee has considered and agreed upon this joint report, which is based upon the minutes of the discussion meetings and partial drafts prepared by individual members.

The objective the committee has had in view is the improvement of working relations between practitioners of the medical and legal professions. Since those relations have their focus in the court room, most of the problems considered by the committee arise out of or are connected with the presentation of medical evidence to triers of fact. They commonly arise, however, long before trial —almost as soon as the attorney-client relationship is superimposed upon the physician-patient relationship; and they may last longer than the litigation. The difficulties may be of various kinds: questions of financial responsibility and of the loss or unproductive consumption of valuable professional time are more frequent sources of irritation or friction than actual or suspected misconduct.

The committee was both surprised and encouraged to discover that most of these interprofessional troubles are traceable in large measure to ignorance on the part of one profession of matters taken for granted by the other. The mutual education which resulted from this discovery was a valuable experience for all the committee members, and the committee is therefore hopeful that a wider audience may also find something helpful in this report of its deliberations.

Before summarizing the conclusions reached on the particular subjects discussed, it seems wise to restate certain fundamental principles which are known to and accepted by both professions. They form a common point of departure for the thinking of medical and legal practitioners with respect to many of the practical problems, and illuminate—or should illuminate—the solutions to be reached. We identified three such principles, as follows:

1. A trial of issues of fact, whether before a jury, judge or referee, is an essential step in the administration of justice in a civilized society.

2. The quality of the justice thus administered is directly dependent upon the degree of accuracy achieved, in the determination of fact issues.

3. In practice, medicine and law are both arts and reflect intuitive processes and other subjective elements. To the extent that this is unavoidable, the conclusions reached on medical questions are not and cannot be altogether objective—that is, susceptible of scientific proof.

It follows that the trial of issues of medical fact should have as its goal the attainment of as great a degree of objective certainty as possible, not only on the part of the medical witnesses, but also on the part of examining and cross-examining counsel. Mutual recognition and acceptance of the fact that absolute certainty is rarely attainable in

Report of Joint Committee on Medico-Legal Relations of the Ramsey County Medical Society and the Ramsey County Bar Association.

respect to cases which are brought to trial should encourage pre-trial education of lawyers by doctors. This in turn presupposes agreement as to the respective roles and obligations of attorney, client-patient and physician as to all matters connected with the impending trial. Is the physician expected to charge the time spent on such matters to the attorney, to the client-patient or not at all? Does it make any difference whether he is or has been the client's attending physician, or has been consulted for the purposes of the litigation only? Uncertainty or confusion as to how such questions should be answered often mark the beginning of misunderstanding, and so the committee took them up first, reaching the conclusions stated below.

Medical Fees

Attending or Consulting Physicians.—(For the purpose of this subject matter, these terms mean physicians or surgeons engaged for the purpose of care and treatment of the patient, as distinguished from a physician or surgeon engaged for the purpose of litigation.)

1. Expense of care and treatment is the obligation of the patient, irrespective of the litigation, or the outcome thereof.

2. Expense, if any, for preparation of medical reports for use by patient's counsel is the obligation of the patient.

3. Expense arising from court appearance is the obligation of the patient, irrespective of the outcome of the litigation. Counsel for the patient is under no legal obligation to pay such fees.

4. In the event of recovery, counsel have a moral obligation to use all reasonable measures to assure payment by the client of the statement for services of the attending or consulting physician, not only for the court appearance but also for services rendered. Whenever possible, unpaid statements should be satisfied as part of the process of distributing funds recovered in the litigation. Counsel unable to make arrangements for satisfaction of unpaid medical bills should promptly notify the doctor of such fact.

5. It is improper for the attending or consulting physician to insist, as a condition precedent to his testimony, that counsel guarantee payment of an unpaid bill for medical services, or bill for services to be incurred for the court appearance.

6. If, during the course of treatment, counsel believes that his client should receive further care or treatment from another physician, counsel should confer with the attending physician and in the event of disagreement make his recommendation to his client. Only with the approval of the attending physician or of the client should counsel engage the services of the second physician or consultant and then should make plain that the services, if undertaken, are to be at the expense of the client-patient.

Examining Physicians.—(For the purpose of this subject matter, this term means a physician or surgeon engaged for the purpose of litigation rather than for care and treatment.)

1. Expense of examination and report, as well as x-ray expense and similar costs necessary for a complete examination, are obligations in the first instance of counsel requesting the same. This fact does not relieve the client of his ultimate liability to pay the examining physician or reimburse his attorney.

2. Expense of court appearance is an obligation in the first instance of counsel requesting the same, but subject to the same comment as above.

3. It is proper and desirable practice that whenever an attorney refers a client to a physician for examination, he should do so in writing, stating the terms of the reference. If the attorney disclaims liability for the fee or if the physician doubts the attorney's credit, the physician may be justified in withholding his report until the fee is paid or in declining to testify until mutually satisfactory financial arrangements have been made.

4. It is improper for the physician and the attorney to enter into any arrangement making the payment of medical fees, or the amount thereof, contingent upon the outcome of the litigation. Fixed fees should be established prior to the examination or court appearance.

5. Payment of the examining physician's fees should be made promptly upon completion of his services. Delay in the final disposition, such as appellate procedure, is not sufficient reason for counsel to delay payment.

Medical Fees for Court Appearances.—

1. The fee to be charged by a medical witness for court appearance should be charged after

giving consideration to the following facts: (a) place of trial, (b) travel time involved in appearance, (c) actual time away from office, (d) cancelled appointments due to court appearance, (e) preparation required for testimony, (f) interference with daily schedule due to unforeseen and unavoidable delay, (g) duration of testimony, (h) nature of testimony, (i) ability to pay of party being charged for services.

Medico-Legal Aspects Before Trial

Physicians who undertake to treat an injured party must recognize an obligation to that patient to testify to the facts relating to the injuries; the care and treatment, and the duration of the pain or disabiliy. Attending physicians are not justified in declining to testify because of personal aversion to court rooms, dislike of patient or attorney, unpaid fees, or other personal reasons. The attending physician should realize that his appearance in court is not entirely a matter of discretion on his part. His appearance can be required by service of a subpoena and payment of ordinary witness fees, even though opinion evidence may be sought. Where a doctor has been so required to give an opinion, the Court in its discretion may allow the prevailing party in the law suit (if the doctor has testified in his behalf) to tax against the losing party expert witness fees for that doctor. In the State Courts the law allows the prevailing party to tax $25.00 a day or, in extraordinary cases, up to $50.00 a day in the discretion of the court. There is no such provision in the Federal Courts.

Conference before trial between the physician and attorney is essential to the proper presentation of medical testimony.

1. Physicians should willingly consent to such conference.

2. Professional courtesy should be afforded counsel in arranging the time and place of such meeting.

3. Sufficient time should be allotted to permit full discussion of the problem.

4. Counsel should acquaint the physician with any peculiarities of the law which may be encountered during the medical testimony.

5. The physician is entitled to compensation for time employed in such conferences. An attending or consulting physician may charge the patient; an examining physician, the attorney.

6. Similarly, an attending or consulting physician, on the one hand, or an examining physician, on the other, is entitled to charge the patient or the attorney, as the case may be, for the time necessarily spent in preparing a written report.

7. Counsel should acquaint their clients with the fact that they will be billed either directly by an attending or consulting physician or for reimbursement by the attorney for medical fees paid to physicians for services prior to the trial and for testimony upon the trial.

8. Counsel should extend every consideration to the doctor regarding the time at which he may be expected to appear in court. During the trial, lay testimony may be often harmlessly interrupted to allow a waiting medical witness to testify. Conversely, the doctor should extend every consideration to counsel in arranging for pre-trial conferences.

Histories and Examinations Before Trial

Histories.—

1. It is the privilege of an examining physician, even though the purpose of the examination is limited to qualifying the physician to present expert testimony, to inquire into the patient's history as fully as he deems necessary or desirable in order to arrive at an opinion concerning the patient's medical condition, even though some parts of the history may bear upon liability issues.

2. It is improper for an examining physician to record under the guise of history self-serving statements with respect to liability issues only, volunteered by the patient, or other items of history which the physician knows without further consideration to be irrelevant.

3. It is improper for an attorney to advise his client who is about to submit to an examination to refuse to disclose information within the scope of paragraph 1 or to volunteer statements within the scope of paragraph 2.

4. A patient or his attorney, with the patient's written authorization, may inspect all hospital records pertaining to the patient without the consent of the attending physician or hospital administrator. Such records may be removed, however, only by subpoena.

Examinations.—

1. It is inadvisable for an examining physician to solicit the opinion of an attending physician or even to consult with him except for the purpose of gaining essential information which cannot be obtained from other sources.

2. It is unnecessary and undesirable for an examining physician acting for the opposing side to express any opinion to the party being examined.

3. Findings of the examining physician should be imparted only to the person or party for whom the examination was made.

4. Joint examinations with other physicians expected to be called as witnesses by either side of a litigation tend to impair independent thinking and judgment and are therefore to be avoided except under unusual circumstances.

5. An attorney should not be present at an examination of his client.

6. An attending or examining physician should not express to the patient-client any opinion as to the settlement value of his law suit, nor should he express any opinion as to the effect of the litigation upon the patient-client's health unless he has first talked to the attorney and has ascertained that the attorney has failed or neglected to communicate the opinion to the client-patient.

The Medical Witness in Court

Production of Records.—

1. Medical witnesses are entitled to have the courage of their honest convictions and steadfastly to hold to a well-founded opinion based on sound medical principles. But dogmatic positions and attitudes are not ordinarily well founded, especially in a case in which reputable physicians are prepared to express contrary opinions, and are thus out of harmony with the basic purposes of the trial. Under no circumstance is a medical witness to regard himself as an advocate, or be encouraged to assume such a role by the attorney who has arranged for his testimony.

2. It is not only the privilege but the duty of counsel for the opposite side to explore the foundations of a medical opinion and to expose any weaknesses which may appear either in the basis or content of such an opinion. Provided that the technique employed by the cross-examining attorney is not unjust or ungentlemanly, the witness should not assume an antagonistic attitude. He should recall that in all probability the cross-examination reflects a contrary medical interpretation of the objective facts. An obstinate refusal to recognize the justifiable possibility of a contrary view does not advance the cause of justice. If the witness is "resolving a doubt" in favor of the party calling him, he should candidly admit that he is doing so.

3. Simplicity of expression is the finest attribute of a medical witness as well as of other witnesses. If technical language must be used, its meaning should be explained in lay terms sufficiently so that not only the judge and the attorneys but also the jurors may reasonably be expected to understand it.

The Redress of Grievances

The County and State organizations of each profession maintain standing committees for the hearing of complaints of professional misconduct, but the details are not widely known outside the membership of the respective professions. It seems desirable, therefore, to include a description of these committees as a part of this report.

Ramsey County Society and Minnesota State Medical Association

1. *Grievance Committee.*—This is a committee of five appointed by the President of the Ramsey County Medical Society. It does not hold regular sessions but meets on call whenever the need arises. The duties of the committee are to hear and investigate complaints concerning the professional conduct and ethical deportment of individual physicians and to attempt amicable adjustment. The committee hears complaints from any source: other physicians, organizations or members of the general public. All complaints must be in writing.

2. *Medical Defense Committee.*—This also is a committee of the County Society but is relatively inactive, its duties having been taken over by the State Committee on Malpractice Insurance.

3. *Committee on Malpractice Insurance.*—This is the organ of the State Medical Association which examines complaints in malpractice cases brought against members of the State Medical Association. The committee furnishes forms to

be filled out by the defendant physician in such cases and makes recommendations after the information called for has been compiled and evaluated. The state association also stands ready to provide expert testimony in a malpractice case against one of its members.

4. *Committee on Medical Testimony.*—This also is a committee of the State Association. It handles complaints against doctors appearing as expert witnesses received from other doctors, judges, lawyers and other interested parties. The committee concerns itself with the evaluation of the sworn testimony given by the doctor complained against. It calls in for assistance experts from relevant specialties who examine the testimony and make findings as to whether or not it was justifiable or at least honest. If the findings are that the witness was not acting in good faith or that his testimony was dishonest or if there was any other form of unethical conduct on his part, the committee then recommends to the State Board of Medical Examiners disciplinary action.

Ramsey County and Minnesota State Bar Associations

1. *Ethics Committee.*—This is a committee of the County Association whose functions parallel those of the Grievance Committee of the County Medical Society described in A-1 above. This committee has no disciplinary powers other than the power to recommend expulsion of an erring lawyer from membership in the County Bar Association, and therefore its most frequent recourse is to refer complaints found by it to be meritorious to the State Board of Law Examiners.

2. *State Board of Law Examiners.*—As its name implies, this is not an organ of the Bar Association but an official body. It is mentioned in this context because of the direct reference to it of complaints heard by the Ethics Committee of the County Bar Association, as stated above. The State Board conducts an independent investigation and if it finds probable cause to believe the complaint well founded, it files charges against the respondent attorney with the Supreme Court of Minnesota. The Supreme Court refers the matter to a District Judge, who hears sworn testimony and receives evidence as a referee and makes written findings of fact but no recommendations. The case is then briefed and argued before the Supreme Court on the record made before the referee, including his findings, and the Supreme Court, by written opinion, then determines what, if any, punishment shall be meted out.

3. *Practice of Law Committee.*—This committee of nine members of the State Bar Association is charged with the duty to investigate cases of unethical conduct, including the disbarment and reinstatement proceedings affecting members of the Bar. The by-laws require it "to take such action with respect to the matters investigated as may be directed by the Board of Governors or Supreme Court of Minnesota." The 1954 report of this committee indicates that it has been largely, if not exclusively, engaged in conducting correspondence with reference to grievances against attorneys by their clients. Grievances originating in St. Paul or Ramsey County presumably would be referred by the State Committee to the Ethics Committee of the County Association, rather than processed directly.

Members of the Ramsey County Medical Society Committee were: Drs. E. M. Hammes, Jr., D. L. McCain, B. I. Derauf, H. R. Tregilgas, and Gordon R. Kamman, Chairman.

Members of the Ramsey County Bar Association were: Russell Carlson, Linus Hammond, Lawrence Hazen, Charles Murnane, and David W. Raudenbush, Chairman.

DISEASES OF THE CHEST

Cancer of the lung, industrial lung disease, chronic bronchitis and emphysema going on to pulmonary heart disease, bronchiectasis and the like are, admittedly, less of a social scourge than pulmonary tuberculosis but they also bring in their train social and economic as well as medical problems. Moreover, the advances of thoracic surgery . . . make the inclusion of all chest diseases an economic proposition for the re-orientated chest service of the future. Tuberculosis will continue to lay first claim on our attention for many years ahead.—PHILIP ELLMAN, M.D., *Journal of Royal Institute of Public Health and Hygiene,* August, 1954.

Cholangiography

A Simplified Technique

G. M. A. FORTIER, M.D.
Little Falls, Minnesota

THE PROBLEM of cholangiography, apart from its controversial aspect, has lent itself to many modifications. Each of these proposes either refinement or increased rapidity of technique, besides excellence of plate exposure; having as an end in view better diagnostic results.

The present article deals with only another practice of preparation for injecting the dye into the common duct. The procedure is offered because it is felt to be an improved, simplified method of operating room cholangiography. To be worthwhile it should properly offer increased rapidity over previously suggested methods, besides adding to the lessening of delay in the operation as a whole while the plate is being developed and interpreted. For the sake of comparison a review of the following methods is made:

Behrend clamps the cystic duct near the gall bladder, then injects the dye directly into that duct through a needle.[1]

Best places dye directly into the common duct through a needle.[2]

Bettman threads a ureteral catheter through the cystic duct, then ligates *to prevent backflow*.[3]

Carter and Gillette inject into the cystic duct, after ligating near the gall bladder. They also attempt to fill the gall bladder with dye under pressure, thereby forcing the media into the common duct.[4]

Caylor, after transecting the cystic duct, threads a ureteral catheter into the common duct, then doubly ligates the cystic duct to prevent backflow.[5]

Hagen and Townsend also pass a ureteral catheter through the cystic duct followed by ligation of that tube.[6]

Hicken inserts a large needle into the gall bladder. After aspirating that organ he distends it with dye through the same needle, forcing the media into the common duct.[7]

Loundsbury, et al, pass a ureteral catheter through the opened end of the cystic duct followed by ligation.[8]

Mehn places a catheter in the opened cystic duct, then ligates.[9]

Mirrizi employs a small cannula fitted with an attached bulb *to prevent backflow*. This he inserts into the open end of the cystic duct.[10]

Robins ligates the cystic duct before injecting the dye into it through a needle.[11]

In the preceding methods certain factors emerge: all of them are practiced in the erroneous belief that dye injected into the common duct under pressure will flow freely back into the gall bladder. Those methods dealing with cystic duct injection are practiced for the most part after the gall bladder has been removed, resulting in a period of inaction while the plate is being developed. Techniques which distend the gall bladder with dye must face a certain percentage of failures due to the imposition of the gall-bladder shadow on that of the common duct. *None is likely to be practiced in the presence of acute cholecystitis.*

The proposed approach to the problem apparently obviates the above mentioned objections. In all the cases studied there has not occurred any but minimal backflow of dye into the gall bladder, even though large cystic ducts have not been ligated. The maneuver is practiced before cholecystectomy is begun. That operation is performed during the waiting period necessary for development and interpretation of the x-ray plate. *The procedure may be carried out in the presence of acute cholecystitis if the ampullary region of the gall bladder is at all approachable.* If there is the least doubt regarding the absence of calculi in the common duct, exploratory choledochotomy is performed. It is in those cases only in which the presenting findings and history definitely assure the absence of calculi that the study is made, except as noted at the close of the article. Small common ducts are not studied.

Technique

A cannula of the type illustrated is employed. It is a Wright sinus cannula. It measures about 5.5 inches in length. The diameter of the bore

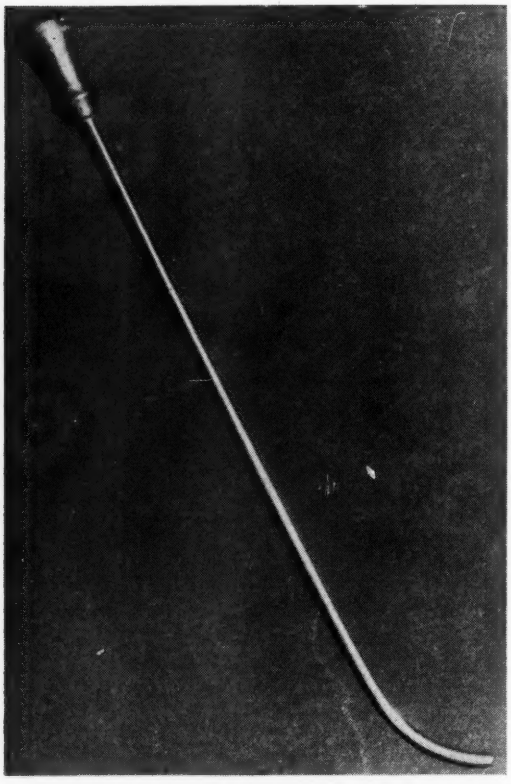


Fig. 1.

is about one millimeter, and the tube diameter two millimeters. The end is fitted and ground to receive a standard syringe hub.

Following examination of the field and aspiration of the gall bladder, in necessary cases, one exposes the area of the ampulla. At a point where one usually applies a clamp in this area a small nick or scissor wound is made through the wall. The cannula is inserted into this opening and guided into the common duct by way of the cystic duct. This procedure should be carried out gently, no force being used. Resistance offered by the valves of Heister is not always present, but if so one gently jiggles and maneuvers the instrument, and very little difficulty is encountered, even in small cystic ducts. Proof of the cannula's entry into the common duct is easily verified. In most cases the tip can be observed, as it is rotated, slightly tenting the wall of the duct. In the presence of doubt, aspiration of bile proves the point. The one misfortune which might occur is a mal-direction resulting in the admission of the cannula into the submucosal layer of the cystic duct. Such an occurrence is disproven by the aspiration of bile. Gauze is gently packed about the tube and gall bladder, and, the x-ray unit being in readiness, the dye is injected. *No blocking of the cystic duct is required.* On no occasion has any backflow of dye been observed on the x-ray plate, except in minimal amounts.

Following exposure the cannula is removed, the opening clamped, and the cholecystectomy begun. This procedure is well progressed or finished by the time the x-ray plates are developed and returned to surgery for study. The time lost, therefore, is minimal as the procedure becomes an active part of the whole operation rather than being a disconnected interposition necessitating an inactive waiting period, as would be true of injection of the common duct with dye followed by x-raying after the gall bladder had been removed.

This simple method is employed also, on occasion, on two other types of cases. When several calculi are known to be present in the common duct at least the minimal number is learned, allowing the enjoyment of that little extra security such knowledge offers. In the case of acute cholecystitis when edema is of such extent as to invite disaster if the common duct is sought for, the assurance that the stones are present in the common duct might, in a particular case, influence one's decisions at the operating table as well as during the postoperative period.

The above outlined procedure has been employed in seventy-five cases. In no instance has any immediate or delayed harm been apparent. In no case was there any suggestion that the procedure affected in any degree the postoperative morbidity. There were no cases of pancreatitis. The criteria for considering the common duct to be free of calculi were narrowly limited. The results, therefore, of the seventy-five case studies were negative. The postoperative follow-up studies over a period of four years produced no instance of presence of overlooked calculi.

(Continued on Page 266)

Choking Accidents

LAWRENCE R. BOIES, M.D.
Minneapolis, Minnesota

THE ACTUAL incidence of choking accidents is difficult to estimate, but these experiences in some form are very common. Few persons pass through childhood without experiencing at least a mildly disturbing episode of having had a particle of food "go the wrong way." In an occasional instance such an episode has serious possibilities. Newspaper references to asphyxia occurring while eating are not rare. When death occurs from the immediate effect of a foreign body lodging in the air passages, the site of this obstruction is usually in the larynx. More often than not a foreign body entering the air way is coughed up. Those that cannot be coughed up are usually found in a bronchus where a varying degree of morbidity occurs, depending on the size and type of the substance and the duration of its stay in the lung.

Etiology

In order of importance and frequency the following causes for choking accidents can be listed:

1. *Hurried eating.*—That often means inadequate mastication or chewing of food. In the edentulous who wear false teeth, chewing tends to be less thorough, or if attempts are made to chew without any teeth, the process of mastication is negligible except for very soft foods. Likewise, the infant can only grind up food to the extent of his teeth, and when he puts such a substance as a peanut in his mouth he has no molars to grind up this type of food.

2. *Lack of concentration on the business of eating, particularly among small children.*—Among adults, conversation is part of the pleasure of a dinner party and leads to leisurely eating, which should insure proper mastication. With the small child, distraction of his attention from the business of eating may be another matter. The child who so often may gluttonously shove food into his mouth is liable to the hazard of getting the food the wrong way if his attention is distracted by other children, or he attempts to play as he eats. Boisterous play among children at a dinner table is an excellent setting for a choking accident.

3. *Allowing a small infant to play or crawl where there are small objects within reach that he could put in his mouth.*—He will follow his natural instincts, which means that anything he picks up will be put in his mouth, if there is room. Pins of various types, nutmeats, popcorn kernels, beads, buttons, eggshells, pieces of wood, parts of toy instruments et cetera, have all been removed from the trachea or bronchi of small infants.

4. *Holding objects in the mouth.*—Professionally there is the seamstress who holds pins in her mouth, or the carpet layer with a mouth full of tacks or the carpenter with his nails. Since these are adults and their minds are usually on their work, choking accidents are uncommon. Also, there is a greater tendency for the foreign body to be swallowed than for it to go into the airway because the co-ordination of the swallowing mechanism and the laryngeal function is better developed in the adult. However, the size and shape of the type of foreign body mentioned precludes much of a possibility of actual asphyxia with an accident from this cause.

5. *Injury to the larynx from external trauma.*—A blow across the external surface of the larynx, particularly if localized at the prominence of the "Adams Apple" can cause enough progressive soft tissue swelling within the larynx to seriously embarrass the airway. Whenever there is loss of voice following external injury to the laryngeal area, or any complaint of difficulty in breathing, careful and continuous observation for the development of serious respiratory distress is in order.

Since this discussion is concerned only with accidents, other causes of choking have not been considered. Inflammatory diseases of the larynx plus the occasional case of edema from allergic reaction and tumors outrank in incidence foreign bodies as a cause of asphyxia, even though serious inflammatory lesions are less common than they were prior to the advent of the sulfonamides in

1937 and the antibiotics in 1942. In addition, the management of these cases from the standpoint of skill in early diagnosis and supportive care has improved.

Management

The immediate management of a choking accident is usually in the hands of a layman. A time-honored practice which the average adult follows is to turn the child "bottom side up" and slap him on the back of his chest. Presumably this maneuver is followed to utilize the force of gravity while the slap or pounding on the back of the chest may serve both to dislodge the foreign substance and aggravate the cough reflex. It seems to work in a fair percentage of cases and it seems logical. The only possible hazard in this would be in the instance where a foreign body had already passed through the glottis and is in the trachea or a bronchus, and that it might become lodged in the glottis as it came back when the patient was tipped "bottom side up."

Another maneuver that has some merit is to incite gagging so as to cause vomiting by "sticking a finger down the throat." This would be most effective in a situation where a foreign body is lodged at the introitus to the esophagus and in this position presses on the larynx to partially embarrass respiration.

When these measures do not bring relief, the hazard is often extremely serious and calls for action that the layman is not equipped to provide. The obstruction is usually at the glottis with impending asphyxia. Occasionally, the site of obstruction may be lower within the trachea from a foreign body lodged at the carina and partially obstructing both bronchi. In the latter event asphyxia is not as rapid.

Only tracheotomy will relieve complete glottic obstruction, and it has been only in extremely rare instances that a layman has had the knowledge of what to do. If a physician can be reached in time, he may have to act without adequate tools. Tracheotomies have been done with a jackknife. This discussion was not intended to cover the details of surgical technique of tracheotomy but the following general maneuvers can appropriately be outlined.

In the case of a small child the operator may find it helpful to be seated, if that is possible, with the child on his back across the operator's knees and with the head somewhat extended. The right-hand operator then palpates the site of incision with the index finger of the left hand, starting first with the prominence of the thyroid ("Adam's Apple") and then feeling the flat surface of the membrane between the firm surface of the thyroid cartilage and the rounded hardness of the cricoid ring below. The trachea begins below this ring. This same left index finger and thumb then act to spread tense the soft tissue over the trachea as a knife in the right hand makes a midline incision and with succeeding strokes bares some trachea. The isthmus of the thyroid is the most vascular structure encountered. If it can be displaced that is desirable, but because of the urgency of the situation a direct incision through it may be necessary. The trachea is next opened by a vertical slit through at least two rings or a horizontal slit through membrane below the first ring, and the margins of the slit are spread by any available means with an instrument or object small enough to keep the edges pried apart.

A more accessible site in certain instances for opening into the trachea below the level of the glottis is through the membrane between the thyroid cartilage and the cricoid ring (crico-thyroid membrane). A transverse slit through this membrane can be made usually without the necessity of transversing any very vascular tissue. Then after an airway has been established and the patient resuscitated, an orderly tracheotomy can be performed and the first incision repaired.

Prevention

The means of preventing choking accidents have already been suggested. These may be summarized as follows:

1. Avoid hurried eating and incomplete mastication of food.

In children this is most important. The business of eating should be their sole activity at the time. When mixed with play or boisterous conduct, a mouthful of food may easily go the wrong way.

Do not feed nuts in any form, or cookies containing nuts, hard candy, popcorn or firm pieces of fruit to infants. Be sure that any seeds are removed from oranges, et cetera.

2. Do not allow infants to play on a surface where there may be any small toys or objects within reach or a floor that is not clean of pins, toothpicks, hard food substances, seeds, et cetera.

3. The mouth should not be a temporary receptacle for pins, tacks, nails, et cetera. Special care should be observed on a farm so that small children do not put shelled corn or other seed materials in the mouth.

4. When the neck has been injured from a blow received in the area of the larynx, close observation is important if the voice is at all impaired.

Seminar

MULTIPLE SCLEROSIS

Diagnosis, Diagnostic Errors and Treatment

Z. R. MILLER, M.D.
Saint Paul, Minnesota

ALTHOUGH multiple sclerosis was described more than a century ago, it remains one of modern medicine's baffling maladies. The etiology remains unknown, the prognosis uncertain, and the treatment unsatisfactory. Though at first considered to be a medical curiosity, it is now estimated to afflict approximately 250,000 individuals in the United States. The neurologic disorder the illness produces is exceedingly variable. Only a small percentage of cases are of the classical clear-cut variety, consisting of ataxia, muscle weakness, nystagmus, diplopia, impaired visual acuity, intention tremor, scanning speech, and euphoria. These textbook cases can be readily diagnosed by the medical student; however, there are a certain number of cases that cannot be properly diagnosed by the astute neurologic consultant, especially during the patient's first attack. The cautious clinician will in such instances make the diagnosis of multiple sclerosis on an exclusion basis. To date, no fresh information can be supplied to help in the establishment of the diagnosis of this demyelinating disease. Nevertheless it is conceivable that with the newer biochemical techniques being utilized in the research laboratories, the questions regarding the etiology, diagnosis, and treatment of multiple sclerosis will be firmly answered in the near future. Until such answers are supplied, renewed emphasis on the establishment of the clinical diagnosis is warranted.

The "pathologic unit" in multiple sclerosis consists of a circumscribed area of nervous tissue in which primarily the myelin sheaths of nerve fibers are damaged with resultant transitory or permanent axone damage. If complete destruction takes place, there results sclerotic, gliotic plaque formation.

Typically, the pathologic foci are multiple and spread in scattered fashion throughout the white matter of the nervous system. The neurologic symptoms, transient or permanent, depend on the regions of the nervous system involved, the intensity of the demyelinization, and subsequent axone impairment. Usually, a new plaque gives rise to maximal dysfunction within forty-eight hours, followed by a moderately semi-stable period of several weeks and then a gradual improvement. The degree of improvement parallels the myelin reformation and intactness of the nerve fibers.

What produces this neurologic disorder? The early pathologists believed that glial overgrowth was the prime factor, hence the term sclerosis. The disease has been attributed in the past to various infectious agents including spirochaetes and viruses; but no positive evidence has ever been produced. More recent theories ascribe the demyelinization to circulatory abnormalities including venular thrombosis, altered coagulability and sludging of blood; to myelin-splitting ferments; to hyperergic reactions; to altered fat metabolism; or to some unknown toxin. It is most probable that many of the newer theories are linked in some way producing a chain of biochemical events; and it remains to be determined which are the prime factors. We need to know more about the nature of myelin. Isotopic tracer substances, enzyme, and lipid studies are being investigated to give added information about myelin metabolism.

Diagnosis

The major criteria for diagnosis of multiple sclerosis are wholly clinical. To this date no reliable positive laboratory test is available. The diagnostic clues are present in the manner in which the neurologic disorder is produced. The vast majority of cases occur in the first half of adulthood. Rarely does the initial attack occur in an individual before the age of twenty or over forty. Although there is no consistent pattern, the history of remissions and exacerbations with

From the Neurology Section, Veterans Administration Hospital and University Hospitals, Minneapolis, Minnesota.

gradual increasing neurologic disability is an important criterion. Another major criterion concerns evidence of multiplicity of neuropathologic lesions, based on neurologic signs, that unequivocally require scattered or disseminated foci. Thus it must be demonstrated that multiple sclerosis typically is a neurologic entity scattered both as to time and place. Nevertheless clinicians have seen and will continue to see cases that lack these criteria; for example, the steady progressive variety, the acute fulminating variety, and the single focal variety. The disease may begin with a single symptom of transient duration, as visual blurring, diplopia, weakness or awkwardness of limb, or numbness, to be followed by an interval of well-being for weeks, months or years before the onset of a second attack. Oftentimes the middle-aged adult during an acute attack will have forgotten an original bout of neurologic dysfunction unless specific inquiry is made. The spinal form of multiple sclerosis may reveal only a steadily progressive spastic paraparesis. Rarely an explosive fulminating variety with wide dissemination of lesions may initiate the onset and result in early death. As the diagnosis of multiple sclerosis usually carries with it a grave prognosis, each case warrents critical evaluation and especially so the atypical cases that do not fit in the "time and place formula." A diagnosis of multiple sclerosis made on the basis of a single focal sign, for example diplopia, must remain presumptive pending the subsequent development of neurologic signs of dysfunction.

The demyelinating process of multiple sclerosis has a predilection for certain areas of the nervous system; chiefly the posterior and lateral columns of the spinal cord, the cerebellar pathways, the medial longitudinal fasciculus, and the optic nerves. When all or most of these areas of the nervous system have been involved as a result of recurrent attacks, the diagnosis of multiple sclerosis is not difficult.

When considering the differential diagnosis, it is helpful to subdivide multiple sclerosis into various clinical types, depending on the major site of neurologic dysfunction. Thus we may have either a predominant cerebral, cerebellar, brain stem, cranial nerve (chiefly ocular), or spinal clinical subtype, or combinations thereof. Brain tumors, encephalitis, and subdural hematomas are to be differentiated from the cerebral variety; myasthenia gravis, carotid artery aneurysms, pineal, sellar and parasellar tumors from the ocular nerve form; acoustic neuromas, cerebellar tumors, pontine gliomas from the brain stem and cerebellar form; subacute combined degeneration, Friedreich's ataxia, amyotrophic lateral sclerosis, platybasia, cord tumors, and midline cervical discs from the spinal subtype of multiple sclerosis.

Various laboratory tests and procedures are utilized to give additional aid in differentiating a suspected case of multiple sclerosis from a host of neurologic disorders. The most commonly performed laboratory test is the lumbar puncture for examination of the spinal fluid. Even though in a small percentage of cases the cell count and spinal fluid protein are elevated, marked increases of either one or both strongly indicates that the disease is not multiple sclerosis. In no more than one-fourth of the cases does the characteristic first zone colloidal gold curve appear, and then usually occurring in the typical easily diagnosed cases. All cases with pure spinal signs require the Queckenstedt jugular compression test to rule out a spinal fluid block. It can be stated that a completely normal spinal fluid examination tends to enhance the diagnosis of multiple sclerosis rather than the reverse. Although various biochemical tests have been performed in the research laboratories on the spinal fluid and blood of patients with known multiple sclerosis, there still does not exist a practical test that will establish the diagnosis with the certainty present for diagnosing central nervous system syphilis.

Further specialized tests, including skull and spine x-rays, electroencephalography, myelography, angiography, and air encephalography are performed when indicated to rule out space-occupying lesions, which by the nature of their location might suggest multiple sclerosis. Myelography is a strongly recommended procedure in virtually all multiple sclerosis "suspect" cases that do not have findings or symptoms above the cervical cord level.

The greatest danger that can befall a patient with neurologic dysfunction is to be diagnosed and treated as having multiple sclerosis, when in actuality myasthenia gravis, chronic subdural hemotoma, benign spinal cord or brain tumor, or other specifically treatable neurologic entities exist. In the workup of the patient the clinician should pursue to uncover a specifically treatable

disease if reasonably present in the differential diagnosis. As an illustration the patient with a combined degeneration syndrome (posterior and lateral tracts of spinal cord involved) may therefore require examination of the blood and urine, including studies for heavy metals (lead, arsenic, and mercury), gastric analysis, bone marrow; and in the event all these tests are normal, spinal fluid analysis, x-rays of the spine, and myelography which includes the entire cervical region are in order before labeling this patient as having the spinal form of multiple sclerosis.

Out of the many cases of multiple sclerosis seen, diagnosed, and treated at the neurologic service of the Minneapolis Veterans Administration Hospital from 1945-1955, the following cases are presented to demonstrate the need for constant surveillance and re-evaluation of all patients labelled with the diagnosis of multiple sclerosis. Furthermore these cases, all proven not to be multiple sclerotics, should caution all clinicians who treat neurologic patients, to be wary of all apparent multiple sclerotic cases that are not of the classical Charcot variety.

Case 1.—J. L. B., aged forty-three, was first admitted to Minneapolis VA Hospital, June, 1945, with the complaint of double vision followed shortly thereafter by weakness and impaired control of his lower extremities. During this period of hospitalization his diplopia improved only to return following an upper respiratory infection. His gait also deteriorated and it was noted that there was mild speech impairment with perioral weakness.

Positive neurologic findings included ptosis of the right upper eyelid, paresis of the right superior and lateral rectus, unsteady gait, absent abdominal and cremasteric reflexes, and symmetrically hypoactive deep tendon reflexes. Spinal fluid examination was entirely normal. A diagnosis of multiple sclerosis was made and patient was discharged much improved September, 1945.

The patient was readmitted to the Minneapolis VA Hospital on October 18, 1948, as a multiple sclerotic in an acute exacerbation. Two weeks prior to admission diplopia appeared on right lateral gaze with progression of diplopia in all fields of vision. He also noted progressive paresis of his arms, hands, and legs with a tendency for his ankles to buckle.

The significant positive neurologic signs on this admission included paresis of the right superior and internal rectus and of the left internal and inferior rectus, a right ptosis, and a mild to moderate generalized muscle weakness of the extremities which became more manifest on exercise. There were no positive pyramidal, posterior or spinothalamic column involvement. The previous diagnosis of multiple sclerosis was questioned in view of the age of onset and the chief neurologic signs of muscular paresis. A diagnosis of myasthenia gravis was considered and established following a presumptive prostigmine test. Twenty minutes after receiving 1 mg. of prostigmine with 1/150 gr. of atropine sulfate there was profound improvement of muscle strength with disappearance of the right ptosis.

Summary.—A forty-three-year-old veteran was first diagnosed as multiple sclerosis and treated for this disease until myasthenia gravis was firmly established three years later.

Case 2.—T. O. G., aged fifty-three, was first admitted to Minneapolis VA Hospital April 20, 1950, with a long history of gait impairment, incoordination of extremities, visual blurring, slurred speech, and intermittent headaches. More recently, he had had increasing difficulty with his right extremities, and the headaches which were previously considered to be of mild intensity became severe. A month prior to admission he had had two unconscious episodes, one lasting approximately five hours. A diagnosis of multiple sclerosis was first made on this individual in 1941 at a neurologic center and he carried that diagnosis ever since although seen and examined by many physicians at various clinics over a nine-year period.

On neurologic examination, it was noted that the patient was disoriented and confused. There was marked cranial nerve involvement including a bilateral three to four diopter papilledema, a right lateral rectus paresis, severe nystagmus in all directions being most severe on left lateral gaze, hypalgesia of the right side of the face with a decreased right corneal reflex, a right peripheral facial paresis, and a right nerve deafness. Other positive neurologic findings included ataxia of all extremities with intention tremors of the arms, worse on the right, hypalgesia of the left side of the body, bilateral positive Babinski, and bilateral ankle clonus and a mild nuchal rigidity.

Information received from a hospital where he was previously examined revealed a spinal fluid protein in excess of 200 mg. per cent. Significant laboratory data performed at this admission revealed pressure erosion of the sella turcica on skull x-rays and a diffusely abnormal electroencephalogram. A diagnosis of a right cerebello-pontine angle tumor was tentatively made, and a right suboccipital craniotomy was performed several days after admission revealing a large acoustic neuroma. There was a stormy postoperative course with resultant neurologic disability.

Summary.—A fifty-three-year-old veteran who had carried a diagnosis of multiple sclerosis for nine years to explain what was considered to be scattered neurologic signs and symptoms and without the characteristic history of exacerbations and remissions. There was progressive neurologic disability with the later development of signs of increased intracranial pressure which being

present on his first admission to the Minneapolis VA Hospital indicated a brain tumor diagnosis and at surgery a right acoustic neuroma was removed.

Case 3.—R. B. H., aged twenty-four, was first admitted to Minneapolis VA Hospital December 9, 1947, on transfer from the VA Hospital, Fargo, North Dakota, with a differential diagnosis of chronic encephalitis and brain tumor. History included an episode of diplopia of two weeks' duration in November, 1943. In December, 1944, while in the Southwest Pacific, he noted blurring of vision and shortly thereafter developed diplopia and bilateral ptosis. The ptosis improved but the diplopia persisted to the present time. In November, 1945, he developed a coarse tremor of the right hand and arm and a month later noted numbness and awkwardness in this arm and hand which later spread to the right leg. Six months prior to admission, his speech was somewhat slurred and dysarthric, and he was unable to walk for two months preceding admission.

Neurologic examination revealed questionable temporal pallor of the optic discs bilaterally. There was a moderate bilateral ptosis with severe impairment of conjugate gaze and paralysis of upward and downward gaze and bilateral lateral rectus paresis. The eyes at times would move independently of one another. The pupils were small and fixed and did not react to light and accommodation. There was hypalgesia of the right side of the face with a reduced right corneal reflex. The motor system revealed a moderate hemiparesis of the right side with right hyperreflexia. Co-ordination tests were poor in all four extremities. Sensory examination disclosed impairment of all modalities on the entire right side. Mentally the patient appeared somewhat dull and there was a mild memory deficit for recent events.

From a neurologic standpoint a diagnosis of multiple sclerosis was made in view of scattered multiple lesions with suspected involvement of the mid brain, medulla, spinal cord and cerebral hemispheres. Included in the differential was a brain stem tumor. Laboratory data included a normal spinal fluid examination in all respects and a normal skull x-ray. A pneumoencephalogram was recommended to rule out a brain tumor diagnosis, and it disclosed a mild generalized dilatation of the ventricular system with normal or slightly enlarged subarachnoid spaces and basal cisterns, which indicated a degenerative process. Special serologic studies were negative for antibodies against eastern and western equine encephalitis. Patient was discharged on January 7, 1948, with a diagnosis of multiple sclerosis.

The patient expired at another hospital early in 1949, and an autopsy revealed an infiltrating pinealoma.

Summary.—A twenty-four-year-old veteran with a history of remissions and exacerbations with resultant progressive neurologic disability over a five-year period was diagnosed as having multiple sclerosis in view of multiple neurologic findings and a negative spinal fluid and pneumoencephalographic study. Post-mortem examination revealed an infiltrating pinealoma with severe involvement of his brain stem.

Case 4.—B. F. S., aged twenty-six, was first admitted to Minneapolis VA Hospital December 18, 1947. This patient carried a service-connected diagnosis of multiple sclerosis, previously diagnosed as post traumatic psychoneurosis. The patient gave a history of loss of control of his left leg with mild exacerbations and remissions over a four and a half year period. Patient first noted this disability shortly after bomb explosion during combat duty in 1943. He was examined at various service hospitals for this complaint. In spite of temporary remissions there was progressive impairment of his left leg, and in the fall of 1946 he was unable to work because of difficulty in ambulation.

Neurologic examination disclosed a spastic paresis of his left lower extremity, hyperreflexia of the lower extremities including bilateral ankle and knee clonus and bilateral positive toe signs and absent superficial abdominal reflexes. The pyramidal tract signs were more marked on the left. There was impaired superficial sensation in an area from T-2 to T-12. Positive laboratory data included a spinal fluid protein of 244 mg. per cent and a positive jugular compression test. Spinogram disclosed a block suggestive of an extramedullary lesion at T-1, and on laminectomy a neurofibroma was removed from the left C-8 nerve root.

Summary.—A twenty-six-year-old veteran who was previously diagnosed as having post traumatic psychoneurosis and later changed to multiple sclerosis was proven to have a neurofibroma of the cervical spinal cord four and a half years after his original symptoms.

Case 5.—A. F. P., aged twenty-three, was first admitted to Minneapolis VA Hospital December 30, 1946, with the complaint of awkwardness and impaired feeling in his right hand and arm. Objects would drop from his right hand. On examination there was mild weakness of his right hand and arm with an intention tremor. There was impairment of position, vibratory and discrimination sense in the right hand with no objective superficial sensory impairment. The deep tendon reflexes were definitely increased in the right upper extremity and suggestively increased in the right lower extremity with an equivocal Babinski sign. Spinal fluid examination was negative including the jugular compression test except for a spinal fluid protein of 60 mg. per cent. X-rays of the chest, cervical spine, and skull were negative. A focal mass lesion of the left sensory cortex was considered, and a pneumoencephalogram was performed which was entirely normal. The patient was discharged with the tentative diagnosis of multiple sclerosis and recommended that he return in six months for follow-up examination.

He was next admitted July 9, 1947. On this ad-

mission there was increasing difficulty with the function of his right arm and hand, and there was progressive gait disturbance, and three months prior to admission he had noted urinary urgency. Examination on this admission revealed moderate weakness of the right arm and leg, right hyperreflexia, a suggestively positive head and jaw reflex, positive Babinski on the right and a suggestive Babinski on the left. Intention tremor and past pointing was noted in the right arm, and there was impaired deep and superficial sensation in the right hand, including astereognosis. On spinal fluid examination the spinal fluid protein was now 36 mg. per cent and the colloidal gold curve was 0012100000. Jugular compression test was again negative. A myelogram was performed which was not entirely satisfactory; however, no significant defects were noted in the cervical region. The diagnosis of multiple sclerosis was again made, and after a course of hospital treatment he was discharged.

On the patient's third admission in December, 1947, there was increasing difficulty of his right upper extremity and increasing gait disturbance. The neurologic examination now disclosed marked pyramidal and posterior column damage with involvement of all four extremities, greater on the right. The patient's gait was ataxic and somewhat spastic. The coordination test disclosed adiadokokinesis and bilateral intention tremor. In view of the past work-up including a normal pneumoencephalogram and a negative spinogram, the diagnosis of multiple sclerosis of a progressive variety was again made and the patient was referred to the Corrective Rehabilitation Department for therapy.

When seen on his fourth admission January 11, 1949, the patient had marked difficulty in ambulation and because of the severe impairment in gait and the loss of sensation and control in his arms he was considered totally disabled. Neurologic examination revealed findings similar to those on his last admission; however, the findings were much more intense with severe involvement of the posterior and lateral columns. On this admission, the patient complained of pain in the right posterior cervical region with radiation into the right shoulder.

In reviewing this patient's case, it was noted that there were no findings at any time to suggest any significant cranial nerve involvement and that this patient's course was one of a progressive variety. The findings of incoordination and tremor noted in the extremities could be attributed to severe posterior column damage, and it was felt that a spinal cord tumor could account for all his findings. Therefore a repeat cervical myelogram was performed which revealed a constant block indicating an extramedullary lesion at C-4. A cervical laminectomy was performed, and an extra- and intradural dumbell neurofibroma was removed. Postoperative course was uneventful, and this patient showed marked neurologic improvement in the subsequent months and when seen two years later the patient was able to work a full schedule on his farm with the only complaint of ease of fatigue and mild paresis and numbness of his right arm and hand.

Summary.—This veteran had a three-and-a half-year history of progressive neurologic disability beginning in his right arm and then spreading to involve the other limbs. A diagnosis of multiple sclerosis was made on three separate admissions to the Minneapolis VA Hospital. Original laboratory procedures including pneumoencephalogram, spinal fluid examination and myelogram were not remarkable. The spinal fluid protein was never elevated beyond 60 mg. per cent and even though there was progressive neurologic impairment the spinal fluid protein actually decreased. The jugular compression test was never abnormal. A repeat myelogram performed on his fourth admission revealed a block at C-4, and at surgery a dumbell neurofibroma was removed.

These five cases, two with cervical cord tumors, two with brain tumors that involved the brain stem and cranial nerves, and one with myasthenia gravis, illustrate that even with the history of "so-called" remissions and exacerbations and suggestion of multiplicity of lesions, the diagnosis of multiple sclerosis requires constant scrutiny. Fortunately, four of these patients received a change of diagnosis during life to permit and receive specific therapy and in three of these (myasthenia gravis and two cord tumor cases) the results were most gratifying.

Treatment

As can be expected in all illnesses wherein the etiology is unknown a great number of drugs, agents, and techniques have been utilized in the treatment of multiple sclerosis. It is doubly difficult to evaluate the success of any therapeutic regime in this condition because of the inherent problems in establishing the diagnosis, the uncertainty of the particular course, and the natural tendency for the illness to remit. Even though there is no specific therapy and in spite of the fact that we have all seen cases of multiple sclerosis fail to respond or regress under treatment, a nihilistic approach is unwarranted. Individuals with this chronic neurologic disturbance look to the practitioner for hope, and help, and if informed that no treatment exists they may deteriorate emotionally as well as physically. Furthermore, many will seek out the unqualified, unethical practitioner. The challenge these patients and their families present should be met by an honest endeavor on the part of the respon-

on all 4 countsth

ACR

wide spectrum of effectiveness
rapid diffusion
prompt control of infection
minimum side effects

...ts the decision often favors

...ROMYCIN*

HYDROCHLORIDE
TETRACYCLINE HCl *LEDERLE*

Compared with certain other antibiotics, ACHROMYCIN offers a broader spectrum of effectiveness, more rapid diffusion for quicker control of infection, and the distinct advantage of being well tolerated by the great majority of patients, young and old alike.

Within one year of the day it was offered to the medical profession, ACHROMYCIN had proved effective against a wide variety of infections caused by Gram-negative and Gram-positive bacteria, rickettsiae, and certain viruses and protozoa.

With each passing week, acceptance of ACHROMYCIN is still growing. ACHROMYCIN, in its many forms, has won recognition as a most effective therapeutic agent.

Lederle

LEDERLE LABORATORIES DIVISION *AMERICAN Cyanamid COMPANY* Pearl River, New York

*REG. U. S. PAT. OFF.

sible physican to "treat," fully realizing the limitations of any therapeutic program. A sincere medical interest on the part of the doctor, utilizing a positive dynamic approach, will result in many satisfying improvements. The increased awareness of corrective rehabilitation during the past decade along with newer non-specific pharmacologic agents make possible a broad therapeutic program.

For many young adults afflicted with multiple sclerosis, such a positive approach will bear dividends, if only to teach the patient how to adjust to his disability and utilize to full advantage the remaining motor function.

The full therapeutic regime includes the more commonly used drugs listed in the outline below, physical and corrective therapy, avoidance of physical and emotional stress, and employment of psychotherapeutic techniques.

Drug Therapy—Multiple Sclerosis

I. Vitamins and Tonics
  (1) Thiamine chloride (B_1) 100 mg. b.i.d. (O)
  (2) Vitamin B Complex—b.i.d. (O)
  (3) Vitamin E—Mixed tocopherols—wheat germ, 50 mg. t.i.d.
  (4) Vitamin B_{12} 100-1000u 3X week I.M.
  (5) Multiple vitamins
  (6) Crude liver extract (3-6 units weekly)
II. Vasodilators and Vascular Agents
  (1) Histamine—2.75 mg. (1 mg. of base) in 250 cc.—500 cc. N.S. intravenously X 20-30 days
  (2 Nicotinic Acid—50-100 mg. plus to produce flush reaction q.i.d.
  (3) Etamon—200-400 mg. I.M. b.i.d.
  (4) Amyl nitrate—inhalation
  (5) Papaverine—75 mg. q.i.d.
  (6) Dicoumerol—100 mg. plus daily to alter prothrombin time to 30-50 per cent of normal
III. Steroid Therapy
  (1) Cortisone—50-100 mg. daily X 30 days and/or
  (2) ACTH
IV. Anti-allergic Drugs
  (1) Histamine—as above
  (2) Pyribenzamine—50 mg. q.i.d.
  (3) Benadryl—50 mg q.i.d.
V. Spasticity Alleviating Drugs
  (1) Mephenesin—250-500 mg. plus q.i.d. (O)
  (2) Quinine—5-15 gr. t.i.d. (O)
  (3) Prostigmine—15-45 mg. of the hydrobromide q.i.d.
  (4) Atropine and atropine-like drugs
VI. Miscellaneous Agents
  (1) Piromen
  (2) Sodium succinate
  (3) Adenosine mono and triphosphate
  (4) Nucleotides
  (5) Isonicotinic acid hydrazide
  (6) Typhoid fever vaccine
  (7) Low fat diet

During an acute attack a combination of oral multiple vitamins, including large extra doses of thiamine, intravenous slow drip histamine infusion, Vitamin B_{12}, 1000 micrograms I.M., and physical therapy as required is an excellent beginning program to be followed for two to four weeks. If unsuccessful, the other pharmacological agents are to be given a trial.

The utilization of comprehensive corrective rehabilitation techniques concomitantly with the drug therapies will (1) aid in the prevention of secondary joint fixation, (2) prevent tissue breakdown, (3) keep the patient in positive protein balance, (4) teach the patient how best to handle himself in the presence of his various disabilities, (5) to utilize his residual capacities to fullest extent, and (6) synergistically the psychologic aspects of such a positive program will act as a catalytic factor, mobilizing an all out effort on the part of the patient. Even a bedridden multiple sclerotic patient, who can be rehabilitated to the use of a wheel chair with the potential of increased self-care activities, is a significant albeit minimal goal. Constant vigilance is required to prevent the development of immobilization and its attendant evils. Inactivity hastens the development of complications such as decubiti, contractures, protein and calcium imbalance, genitourinary infections and calculi formation, and draws heavily on the emotional health of the patient and also those that treat him.

Physical therapy can and does lessen these destructive complications. The patient undergoing dynamic corrective rehabilitation must be cautioned not to exercise to a state of physical exhaustion.

The physician with the above therapeutic armamentarium plus the benefits derived from physical therapy, and cognizant of the patient's and family's psychotherapeutic needs can and will be of utmost service to his multiple sclerotic patients.

Summary

The criteria for the establishment of the diagnosis of multiple sclerosis are reviewed. With the absence of the "time and place" formula the diagnosis should be made only on an exclusion basis, subject to change.

Five cases are reported that were originally diagnosed in error as multiple sclerosis.

The therapeutic program for each patient must be custom-tailored along a positive dynamic course, utilizing the various drugs available and exploiting corrective physical therapy to its fullest extent.

Laboratory Aids

Sponsored by
The Minnesota Society
of Clinical Pathologists
George G. Stilwell, Editor

FUNCTIONING OVARIAN TUMORS

MALCOLM B. DOCKERTY, M.D.
Rochester, Minnesota

Following the discovery by Virchow of the production of bile in a pulmonary metastatic tumor originating from a hepatoma, it became apparent that utter lack of function was no longer implicit in the definition of a neoplasm. With acquisition of knowledge concerning tumors of ductless glands came the realization that such tumors produced, often in large amounts, the hormones that were native to their tissue of origin. Such anatomic and physiologic evidence of function as relates to certain ovarian neoplasms is the subject of this report.

Granulosa Cell Tumors.—Comprising perhaps 2 per cent of all ovarian neoplasms, this growth characteristically feminizes its host. Children so afflicted are sexually and somatically precocious, with an early onset of "menses." During the period of sexual maturity, patients who have such tumors exhibit amenorrhea or anovulatory bleeding, and infertility is almost invariably present. Older patients often experience a postmenopausal return of "menses," often accompanied by soreness and enlargement of the breasts.

With such a history, the causative tumor often may be recognized grossly as a granulosa cell neoplasm, for it is typically unilateral, solid, lobulated and encapsulated, with a tan cut surface that is reminiscent of liver sausage. The uterus is unduly enlarged, containing fibroids in 50 per cent of cases. When the patients are more than fifty years of age, cancerous changes are present in the uterus in 15 per cent of instances. The occurrence of unilateral or bilateral carcinoma of the breast is another interesting side effect, possibly produced by the estrogen elaborated by the ovarian tumor cells. Suppression "atrophy" of the contralateral ovary is observed among patients of all ages. The "plush" condition of the vaginal mucosa in postmenopausal women suffering from the effects of granulosa cell tumors is still another evidence of function of such tumors.

Microscopically, the tumor shows a basic composition of granulosa cells in a variety of patterns of interest to both the gynecologist and the pathologist. An admixture of theca cells frequently can be found on careful search. The cellularity of the tumor is such that failure of recognition usually results in an "overdiagnosis" of ovarian sarcoma.

Aggressive tendencies relating to recurrence and metastasis are observed in about 25 per cent of patients in the older age groups, wherein policies of radical surgical intervention are also dictated by the high associated incidence of uterine carcinoma. Irradiation is extremely useful when total removal has not been possible. Among younger persons with granulosa cell tumors, simple removal of the tumors has been satisfactory.

Theca Cell Tumors.—Occurring either in pure form or hybridized with granulosa cell tumor, this second member of the feminizing group is observed principally among older women.

Theca cell tumors are unilateral, solid, lobulated, encapsulated yellowish-brown growths of moderate size. Pathologic changes in the uterus, including endometrial carcinoma, frequently are observed and the uninvolved ovary is often atrophic.

Microscopically, masses of lipide-laden, plump, spindle-shaped theca cells alternate with zones of hyalinization in a picture that may be confusingly similar to that of a fatty fibroma. Escape from this diagnostic dilemma is often afforded by the finding of clusters of granulosa cells in the truly functioning growths. Although practically all theca cell tumors are benign, their treatment in older patients has been of necessity somewhat

From the Section of Surgical Pathology, Mayo Clinic, Rochester, Minnesota. This is the twenty-sixth in a series of editorial reports sponsored by the Minnesota Society of Clinical Pathologists and designed to foster closer relationships between clinicians and pathologists.

radical because of the coexistent uterine pathologic changes.

Sertoli Cell Tumors.—Sertoli's cells are reputed to elaborate estrogen, and clinically feminizing tumors made up of these elements have been humans. Some investigators maintain that a human ovarian counterpart exists in the form of described in the testes of dogs and, rarely, also of certain rarely reported instances of tubular granulosa cell tumors.

Arrhenoblastomas.—Arising either from testicular remnants in the ovarian hilus or through an overgrowth of comparable elements in a teratoma, this masculinizing neoplasm induces amenorrhea associated with such conditions as infertility, hirsutism, changes in voice and atrophy of the breasts. Of the approximately 100 cases reported in the literature, the few in which necessary studies have been performed generally have exhibited decreased values for urinary estrogen and increased values for ketosteroids. Arrhenoblastomas, which are of a small average size, are characteristically solitary, solid, lobulated and encapsulated. Their local removal in young women has been followed by resumption of menses, pregnancy and parturition, and regression of hairiness and changes in the voice. Prolonged follow-up studies, however, reveal a 50 per cent incidence of recurrence and metastasis, indicating that such conservative treatment has not served the best interests of the patients.

Microscopically, many variations depart from the "average" picture of tubules resembling those of the testis, with intervening clusters of Leydig's cells. Sertoli's cells lining the tubules may secrete estrogen that neutralizes the male sex hormone of the interstitial (Leydig) cells. Such a valid (?) explanation has been offered to explain the absence of clinical masculinization sometimes noted in patients who have tumors that appear mature and differentiated. Interstitial cells are more abundant in the less differentiated growths, which usually produce the most pronounced degree of masculinization. Indeed, a few cases have been reported in which ovarian hilar proliferations of Leydiglike cells have produced masculinization even in the absence of any lesion deserving the designation of tumor.

Masculinovoblastomas.—Twenty case reports comprise the literature on this interesting growth, in which the pathologic features of an ectopic adrenal cortical carcinoma are linked with the clinical picture of Cushing's syndrome. The tumors presumably arise from adrenal cortical tissue sequestered within the ovarian hilus.

These growths are large, solid, friable carcinomas that fortunately are usually well encapsulated. Microscopically, they feature clusters of lipide-laden cells with sharp epitheliumlike outlines disposed in alveolar and trabecular patterns. Evidences of cellular anaplasia and pronounced pleomorphism usually have not been reflected in metastasizing aggressiveness, and many patients afflicted with these tumors have achieved permanent cure after simple oöphorectomy.

Dysgerminomas.—Comprising about 1 per cent of ovarian neoplasms, the dysgerminoma has been captioned a "neutralizing" tumor principally because of its frequent occurrence during prepubertal years and its occasional association with a state of pseudohermaphrodism. However, its removal does not alter the habitus of such patients. Since a number of these growths have been discovered during pregnancy, one wonders about the propriety of continuing to classify them as "neutralizing." Bilateral in a third of cases, dysgerminomas as a rule are large, soft, hemorrhagic and necrotic. Microscopically, the picture is exactly similar to that of seminoma testis, which likewise arises from primitive sex cells.

A discouraging 30 per cent five-year surgical survival rate indicates all too clearly that the body curves of the patients rather than the mortality curves in the past have fostered a somewhat conservative assault on this serious form of ovarian carcinoma.

Struma Ovarii.—As a producer of ovarian hormones, struma ovarii certainly stands on the side lines. However, this teratomatous tumor of thyroid tissue sometimes elaborates enough thyroxin to justify its inclusion in any group of functioning ovarian tumors. Basically, the functioning 5 per cent of such lesions are toxic adenomas rather than exophthalmic goiters and the patient's thyroid gland does not share the metabolic turmoil of its ovarian auxiliary. As a consequence, operations on the neck have not made these patients better risks for oöphorectomy. Peculiarly prone to undergo torsion of their pedicles, these tumors frequently induce ascites. Malignant changes eventually ensue in 5 per cent.

President's Letter

OUR 102nd MEETING

It may not be too generally known, but it is an accepted fact that the medical profession spends more of its time at postgraduate education than any other profession or guild. This is as it should be. The never-ending search for methods of cure and prevention is inherent in our philosophy of public service. Advances in scientific knowledge and improvement of techniques reveal themselves annually in improved mortality rates, decreased morbidity, and increased longevity. This dissemination of knowledge and the interchange of ideas takes several forms, best exemplified by hospital staff meetings, pathological conferences, county and state medical meetings, and specialty organizations, and the voluminous medical literature.

Our State Association assumes its rightful part in this postgraduate medical education program by attempting annually to present a program at its annual meeting which will be of interest and value to the profession of the state.

The value of our annual meeting is enhanced by the contributions made by our commercial exhibitors. They demonstrate improved technical instruments, inform us of improved therapeutic agents, make available for demonstration and inspection medical texts of all varieties. The value of their contribution cannot be overestimated.

This year your Committee on Scientific Assembly is introducing an innovation to our State Association meeting. Two and a half hours a day will be given to closed circuit television. This, of necessity, will decrease the number of formal papers that can be given at the meeting, and your officers and committee membrs are awaiting with a great deal of interest your reactions to such a program.

This year also we have a distinguished roster of guest speakers, and we welcome their contribution to our program. In addition, we have shifted the round tables to all three days of the meeting, and the topics will be discussed under competent moderators. I urge you all to make reservations for the round-table discussions as early as possible so that you will not be disappointed in attending the discussion of your choice. Programs and reservation cards will be sent to members around May 1.

Also, this year is the centennial of the Hennepin County Medical Society and we are very happy to join with the society in celebrating the occasion. Wouldn't it be interesting if by some magic means the founders of the Hennepin County Medical Society could attend our annual meeting? Their amazement can only be imagined, but we must remember that it is through the efforts of these original founders that our success as a county and a state organization was made possible. To them we owe our undying gratitude.

Your Committee on Local Arrangements, your Committee on Scientific Assembly, and all your state officers are eager to greet you and serve you at our annual meeting. We are also anxiously awaiting your reactions to the innovations in the program and hope for your constructive criticism.

Arnold O. Swenson

President, Minnesota State Medical Association

Editorial

JOHN F. BRIGGS, M.D.
HENRY G. MOEHRING, M.D.
ARTHUR H. WELLS, M.D.

THE STATUS OF NEUROLOGIC RESEARCH

In the 19th and early 20th centuries, neurological research was principally devoted to the elucidation of anatomical pathways, the study of pathologic alterations aided by special staining techniques, and the careful clinical description and categorization of neurological disease. Advancements in research techniques and the revision of clinicians' orientation towards neurological disease have resulted in drastic changes in neurological research in recent years.

The development of electroencephalographic and electrocortiographic techniques as well as the application of the cathode ray oscilloscope and of strichnine neuronography in human and animal experiments has provided physiological information unobtainable by older techniques. The adaptation of the nitrous oxide technique by Schmidt, Kety, and other investigators has clarified many speculations concerning cerebral circulation. The physiological functioning of the nervous system has now been demonstrated to be intimately concerned with a variety of enzymatic and other chemical reactions. The clinical applications of neurochemistry was strikingly demonstrated by studies such as those indicating Vitamin B_1 (thiamine-diphosphate) to be essential to the aerobic metabolism of nervous and other tissues. Failure in aerobic metabolism brought about by Vitamin B_1 deficiency results in the clinical symptomatology of polyneuritis as well as in central nervous system manifestations. Other recently developed techniques include tissue culture and phase microscopy which have contributed toward the improved diagnosis of poliomyelitis and other virus infections and have accelerated the development of anti-viral vaccines.

Clinical research methods have also undergone marked changes in the past few years. A dynamic approach to nervous system disease has replaced the purely descriptive and categorizing type of neurology. The advances in anatomical, physiological and chemical knowledge are being employed to improve the diagnosis and therapy of neurological disease. Newer techniques such as arteriography and other neuroradiological procedures have produced marked improvement in the neurological diagnosis. Among the most dramatic contributions of clinical neurologic research is the development of rehabilitation in the neurologically disabled patient.

The emphasis on newer methods in basic neurologic research and the accentuation of dynamic clinical neurology has contributed significantly to a greater understanding of neural mechanisms and a sounder approach to neurologic diagnosis and therapy.

MAYNARD M. COHEN, M.D.

MINNESOTA POLL

The *Minneapolis Sunday Tribune's* Minnesota Poll, published January 23, 1955, concerned itself with attitudes toward physicians and showed that in Minnesota: two-thirds of the people considered doctors' fees reasonable; more than four out of five people are satisfied that doctors "take a personal interest in their patients and their troubles"; 87 per cent believe doctors are better trained nowadays than they've ever been, and 68 per cent believe people in this country would be worse off if we had federal control of doctors.

This is a public relations testimonial of which physicians are proud. But, recall the repeated sage comment of the late Dr. J. C. Litzenberg, "*Any* physician can make the right diagnosis and undertake the correct treatment in 80 per cent of the patients who come to him. But what we want to train here at the University of Minnesota are physicians who can also be right in that other 20 per cent." Then recall also the anonymous research worker who contended that unless the proof of a hypothesis was so forthright that it fairly hit you in the face, it wasn't convincing enough to let you accept the hypothesis as correct. From this Minnesota Poll we have, in a general sort of way, that dissenting 20 per cent; e.g., the poll reports that 32 per cent of the people aged sixty and older, 25 per cent of the labor union

members, 24 per cent of the men, 22 per cent of the Democratic-Farmer-Labor voters, and 20 per cent of the independent voters think that the country would be better off if medical care were controlled by the federal government and doctors were under federal regulation.

Apparently, Minnesota physicians, however proud they have a right to be about having pleased from two-thirds to seven-eighths of their patients, must offer still more to please the unconvinced 20 per cent. We could just assume that they are the incorrigibles, no matter how you look at them, but somehow, we're sure, the Litzenbergian principle will prevail and we'll continue to try to render satisfying service to 100 per cent of our patients.

H.G.M.

HOW A LOCAL BANKER MAY SERVE THE PHYSICIAN

We believe that a local bank serves the physician by making available to him a safe storage place for money; by providing personal and business checking accounts; by advancing long-term financing for his building and equipment; and by granting short-term financing for temporary needs. These are the major items of service which are in turn supplemented by other less routine services furnished by the banker who is his financial consultant.

The first item mentioned is, of course, one of the basic functions of banking, and within its structure, a convenient safe method of storing funds is provided. These funds are available immediately for the use of the physician, and in the meantime can be used by the bank in the form of loans, to develop and strengthen the trade territory in which both the physician and the bank operate.

Many physicians are noted for their lack of interest in the maintenance of good records. The bank provides a checking account service which is invaluable in this respect to provide legal receipts for bills paid, and to provide good evidence for income tax records. This service is important both from the standpoint of the professional or office account, as well as for the personal account, and in many cases is the only record maintained in the latter area.

In many communities, the physician is expected to maintain complete and extensive office facilities to supplement the hospitals in his town. These facilities may take the form of a modern clinic for several doctors, or doctors and dentists combined, and represents a considerable investment of money. Long-term financing is required to enable these facilities to be constructed and paid for on an orderly basis, and the banker helps to provide these funds as well as aids in making decisions regarding the size of the project and the proper location for it. Even where the office is maintained in rented quarters, the physician's investment in equipment and supplies can be quite large and will require relatively long-term financing. Short-term financing for other temporary needs is readily available at commercial banks for the purpose of financing accounts receivable and unusual temporary expense items and supplies.

After the physician is well established in his community and has acquired and paid for his "plant and equipment," the banker is often called upon to serve in less routine ways. The physician can properly look to him for assistance in investing his funds. The banker can discuss the field of investment generally, and suggest to the doctor the type of investment he feels might be best suited to his needs, pointing out the safety features, the rate of return, and call attention to the speculative nature, if any, of the investment under consideration. Ordinarily, too, the banker is an excellent source of information regarding community projects of various kinds that professional people are called upon to support, and by merely placing a telephone call to the banker, reliable information of this kind can be obtained.

In addition, we feel that the banker and the doctor share common interests in two very important community matters. Both are interested in the over-all welfare of the people in their trade area, and the bank, by careful and judicious use of credit, builds its community in terms of improvement, of employment potential, by attracting new businesses and aiding established firms in their growth, and therefore develops a larger clientele for the work of the doctor. In recent years, more and more families are coming to the bank for family credit and the banker helps these people stabilize their personal affairs, which in turn eases the collection problem for the doctor. It is also our feeling that both the medical profession and the banking profession are among the

strongest proponents of the capitalistic system, both believing that socialization of their professions would in the long run not operate to the advantage of most of the people. Both of these professions have a responsibility to make these views known within their community, and it would therefore seem that the banker and doctor can function as a team, not only strengthening each other in their ability to serve, but in turn strengthening the community they both serve, and from which they draw their livelihood.

WALTER V. DORLE
President, Northwestern State Bank
Saint Paul, Minnesota

HISTOPLASMOSIS IN MINNESOTA

Waring, in MINNESOTA MEDICINE, August, 1954, presented a fine article on non-tuberculous cavities of the lung, which summarizes the picture of the fungus infections, coccidioidomycosis, histoplasmosis, and actinomycosis; these three represent the vast majority of fungus infections of the lung. Waring illustrates the similarities and dissimilarities between these diseases and tuberculosis, and emphasizes many practical points in differential diagnosis. This becomes increasingly important to physicians in Minnesota because of new evidence of the existence of histoplasmosis in the state on a scale hitherto unsuspected.

The fungus, Histoplasma capsulatum, is widely distributed in nature, mainly but not exclusively in the Mississippi Valley. Following human infection, the skin test with histoplasmin converts from negative to positive within one to two weeks after the onset of illness, and remains positive for years. This skin test may be used to measure the extent of human infection with the fungus in any area. There is no evidence of person-to-person communication of infection. Age, as well as residence, will affect expected histoplasmin sensitivity, since children may have a much lower frequency of reactions than the adult population.

Using such survey techniques, Furcolow et al have shown, in the Cincinnati, Ohio, area, that 15 per cent of children five years old reacted positively to histoplasmin, the rate rising steadily to reach a high of 80 per cent positive at age eighteen years. This rate curve is similar to that of children in Kansas City, but a little lower. The same children reacted positively to tuberculin in less than 1 per cent at age five, rising to about 5 per cent at eighteen.

In May, 1954, tuberculin and histoplasmin tests were given to 5,487 school children in the grade and high schools in Wright County, in central Minnesota, and to 199 adults connected with these schools. Of the children, sixty-five (1.2 per cent) reacted positively to tuberculin and 404 (7.3 per cent) reacted positively to histoplasmin. Of the adults, forty-five (22.6 per cent) were positive to tuberculin, and thirty-two (15 per cent) were positive to histoplasmin. Further analysis of the survey will be available soon.

Histoplasmosis has been recognized as occurring in Minnesota in epidemic form on at least two occasions: in 1948 in the Detroit Lakes area, and in 1949 and 1953 in Wright County. Waring points out that the lungs are involved in about 50 per cent of cases reported in the literature, and that about 20 per cent of reported cases are in infants.

It seems apparent that histoplasmosis infection may not be as infrequent in Minnesota as hitherto believed, and that the disease occasionally occurs in localized epidemics. Because of frequent pulmonary involvement, the disease must be considered in the diagnosis of respiratory illness, and it may be the cause of unexplained illness in children.

D. S. FLEMING, M.D.

ACCIDENTS, A KILLER OF OLD AND YOUNG

Readers of MINNESOTA MEDICINE have had several topics of accidents brought to their attention during the past several months in a series of articles focused on accidents as the prime killer of children. In this issue still another is presented: *"Choking Accidents."*

Are you teaching young parents the dangers to which their children are exposed? Are you using the new safety vaccine?

T.C.C.

Evidence on all sides shows that the enduring health programs are those the people have understood and those they have had a hand in developing.—HUGH R. LEAVELL, M.D., Dr. P. H., *American Journal of Public Health,* November, 1954.

The Dean's Page

THE PROCUREMENT OF ANIMALS FOR RESEARCH

The 1949 Legislature passed an act "to promote scientific research and instruction in animal and public health by making available to educational and scientific institutions, unclaimed and unredeemed animals impounded by public authority in animal pounds" and "to provide licenses therefor and penalties for violations thereof." The title of this act clearly indicates the intent of the 1949 Legislature to aid educational and scientific institutions in the procurement of animals for teaching and research purposes for the benefit of both human beings and animals.

Primarily, through the Antivivisection Society and similar groups, resistance to the provisions of this law was encountered. It became obvious that several points in the law needed strengthening. First, the definition of "animal pound" was not sufficiently explicit to prevent legal arguments. This controversy centered around the question of whether or not a privately owned kennel impounding stray animals through a contract with a municipality was subject to this law. The second difficulty with the original act was the lack of a specific procedure to be followed in the event of an alleged violation of the law.

The 1955 Legislature is to be commended for correcting the weak points in the original act of 1949. Amendments were passed which clearly stipulate:

"Any public or private agency, person, society or corporation having custody of animals which are seized under authority of the State or any political subdivision of the State must make available to licensed institutions all animals unclaimed and unredeemed by their owners . . ."

One of the most effective amendments was as follows:

"Any establishment which fails to comply with these provisions shall become immediately ineligible for any further public funds from any county or municipality."

Rapid enforcement procedures and an arbitration agency were added in the following amendment:

"Upon receipt of a sworn statement by an authorized officer or employe of any institution licensed hereunder of non-compliance by an establishment with these provisions it shall be unlawful for the treasurer of any municipality or other political subdivision of the State to pay any public funds to such establishment until the complainant withdraws its statement of non-compliance or until the State Livestock Sanitary Board shall either determine that the complaint of non-compliance was without foundation or that the establishment has given adequate assurance of future compliance, and the treasurer of such municipality or other political subdivision has been notified of such determination in writing. If it appears upon the complaint of any person that any officer, agent, or employe of such establishment is violating or failing to carry out the provisions of this section, the Attorney General or County Attorney of the county in which the establishment is located, in addition to any other remedies, may bring an action in the name of the State of Minnesota against any such establishment, officer, agent, or employe thereof to enjoin compliance with this section."

Chapter 195 of the session of the laws of the 1949 Legislature, as amended by the 1955 Legislature, stands as a milestone in the course of progress in experimental medicine. It clearly indicates strong public support for scientific progress. The members of the Legislature who made this law possible are to be congratulated for a job well done!

HAROLD S. DIEHL
Dean of Medical Sciences
University of Minnesota

Medical Economics

Edited by the
Committee on Medical Economics,
Minnesota State Medical Association
George Earl, M.D., Chairman

HOOVER COMMISSION REPORTS ON MEDICAL SERVICES

The medical services report of the Hoover Commission (on Organization of the Executive Branch of the Government) was sent to Congress recently.

The more important recommendations are: (1) Establish a Federal Health Council; (2) Provide contributory health insurance for military dependents and for personnel of the Coast Guard, the Public Health Service and the Coast and Geodetic Survey, and for dependents of the latter three groups; (3) Regionalize military medical services, with one service responsible for each region; (4) Tighten up ability-to-pay requirements in VA, and codify VA laws and regulations; (5) Virtually wipe out the present Public Health Service hospital and medical care program.

The Medical Task Force of the Hoover Commission made studies which report that United States spending for medical programs and compensation totals $4.1 billion a year and that the federal government is responsible in whole or in part for the medical care of 30 million people. These facts are reported in a recent issue of the American Medical Association Washington Letter.

The Letter states:

"It is expected that legislation shortly will be introduced to carry out the recommendations. In a legislative sense, the Commission and Task Force suggestions carry only what weight the Congress wants to give them. The major medical recommendation of the first Hoover Commission (1949) was for a united medical administration to take over most of the medical responsibilities of the federal government. Hearings were held in Congress on this recommendation, but it was not put into effect."

AMA COMMENTS ON HOOVER REPORT

Recommendations of the Hoover Commission on non-service-connection disability regulations were surprising to the American Medical Association, according to a recent Secretary's Letter. The Letter states:

"It was surprising to many of us . . ., and certainly to the nation's taxpayers, that the Hoover Commission, in announcing its report on federal medical services on Monday, February 28, junked the major recommendation of its own 16-member Medical Task Force. At the last minute of deliberations, it substituted instead proposals which will expand instead of curtail government medical care for veterans with non-service-connected disabilities."

The Letter goes on to say that in its study report to the commission, the Medical Task Force recommended that veterans with non-service-connected disabilities receive hospital care if the need for such disability is established within three years following discharge from active duty. Members estimated that the number of potential patients with non-service-connected disabilities would be reduced from 17.5 million to about 3 million, with an estimated annual savings of $150,000,000.

"The commission, however," states the Letter, "chose to reject the cut off provision and recommended that this service be reduced through a closer financial screening of applicants. This recommendation, as we all know, already has been tried and proved to be ineffective."

Inconsistent Views

It is noted that the commission has made recommendations which were not in keeping with recommendations of its Medical Task Force. The AMA comments:

"While the Medical Task Force did recommend non-service-connected out-patient care, it was to be within the framework of the three-year cut off date. The commission, in eliminating the three-year eligibility clause, chose to retain the provision of out-patient service, which in the past has been available only to veterans with service-connected disabilities. This out-patient provision would actually skyrocket the cost of veterans' medical care."

In conclusion, the AMA states that the Commission has reverted from its original objective:

"To remove the three-year time limit and, at the same time, furnish the non-service-disabled veteran out-

patient care in veterans' hospitals is certainly not in keeping with the commission's objective of trying to eliminate wasteful government spending and the unnecessary intrusion of the federal government in private affairs."

SURPLUS PROPERTY SOUGHT FOR HEALTH FACILITIES

According to a House Government Operations Subcommittee, a new Defense Department regulation may be preventing distribution of surplus property to health and educational institutions. The subcommittee, under direction of John W. McCormack (D., Mass.) is investigating the charges. The regulation requires that certain salable surplus items in the military services be placed in a "capital account," to be sold at prices said to average less than 5 per cent of their acquisition cost. A recent AMA Washington Letter reports that a system for free distribution to health and educational institutions has been in existence for some years, under supervision of the Department of Health, Education and Welfare.

The subcommittee had before it a bill which would amend the present law to:

"1. Require all departments to release surpluses if the states and other non-profit agencies want them, and if HEW approves.

"2. Remove after one year any restrictions on resale or disposal of surplus property previously acquired, and permit immediate passage of title in future acquisitions.

"3. Allow for unrestricted transfer of surplus property ownership among federal and state agencies."

RURAL HEALTH LEADERS GATHER

Community efforts to bring better health to rural areas was the point of emphasis at the recent 10th National Rural Health Conference in Milwaukee. About 500 physicians, farm organization officials, agricultural extension workers, farmers and others met to discuss mutual rural health problems and projects.

Subjects of discussion included farm and home safety, family responsibility for health, using available health and medical care resources, and how the job is done. Dr. F. S. Crockett, Lafayette, Indiana, chairman of the AMA's Council on Rural Health, said:

"Our first ten years in this important endeavor of creating more healthful living for people in rural areas has produced a remarkable unity of purpose between the medical profession and farm people. Medicine is no longer a job for the doctor alone—it is a community problem, too."

One of the striking aspects of the conference was its deep personal basis—the feeling that the participants were not talking about "problems" or "goals" or "programs" but about people, the rural people whose work is the mainstay of the entire nation's well-being. According to an AMA news release on the meeting, "The accent was first of all on individuals, then families, then communities. The individual man's responsibilities and tasks were foremost, while the family unit was stressed as the starting-point for cooperative effort on other levels."

Looking Both Ways

Theme of the meeting was "Looking Both Ways"—to past achievements and future goals. Dr. Leonard W. Larson, Bismarck, N. D., AMA Trustee, summing up the meeting, noted that doctors have been in the minority at the ten national conferences and that "their viewpoint, although freely expressed, has not dominated the discussions."

"This is as it should be," he continued, "for the people know best what is available and what is needed to improve the health condition of the farmer. The doctor can tell them how to utilize existing facilities and how, from the medical viewpoint, he can be of assistance in the attainment of their objective."

"JUST KEEPING UP" TAKES TIME

The average American physician, who puts in a sixty-hour work week, spends about ten hours a week just keeping up his education, a recent American Medical Association survey shows.

And, even with this exacting schedule of hours, most physicians surveyed said they wished it were possible to spend much more time keeping up to date with medical progress.

Dr. Douglas D. Vollan, assistant secretary of the Council on Medical Education and Hospitals, reported on the survey of the physician's career-long education in a recent issue of the AMA Journal. He stated:

"Every year, every month, and every day brings new changes in the panorama of knowledge of human biology,

human disease, and related scientific fields. With this knowledge comes new skill in the prevention, diagnosis, and treatment of the ills that plague mankind. . . . What may have been acceptable treatment for one condition 20 years ago might now be considered less than worthless."

Therefore, it is "absolutely essential" for the physician to continue his education as long as he practices medicine. The Council survey found out from about 5,000 physicians and numerous postgradate education facilities just how it's done.

According to the survey, the surveyed physicians said they spend a yearly average of 667 hours (about 83 eight-hour days) in the five general fields of learning after college—reading, professional contacts with other physicians, attending hospital staff meetings, going to medical society meetings, and taking formal postgraduate courses.

Reading Important

Most physicians said reading is the most important way to learn, and wished they had more time for it. A third of these 667 hours are spent in reading. Another third of the time is in professional contacts with other physicians, since "bedside consultation" is probably one of the best ways to learn. Physicians spend from one day to as much as three months a year taking courses, which they ranked second in educational importance. Those surveyed said they would like to spend 200 per cent more time in postgraduate courses.

Dr. Vollan, in summing up the report, quoted a comparison of the American physician "to a shiny new automobile, the product of a very large initial investment but one that requires constant care, repair, and refueling in order to do the job for which it is intended."

HOBBY SAYS AMA WILL ACCEPT REINSURANCE

Secretary to the Department of Health, Education and Welfare, Mrs. Oveta Culp Hobby, believes the American Medical Association will show a turnabout and accept the government's reinsurance plan. Testifying in support of the President's national health program recently, Mrs. Hobby deprecated suspicions that reinsurance is a leadup to socialized medicine.

In response to questioning, Mrs. Hobby definitely indicated that she expects the AMA will not oppose reinsurance. One of the strongest deterrents to passage last year was AMA's claim that it was an opening wedge to socialized medicine. "I think when you come to question AMA," Mrs. Hobby stated, "they will not say it is an opening wedge." Mrs. Hobby continued:

"I thought that old socialized medicine ghost was dead. Reinsurance is just an attempt to help men and their families help themselves. I don't believe people want socialized medicine, but they do want a way to pay medical bills. We must find a way by which they can pay those bills. If we don't do it by a voluntary way, then it must be done by subsidy or by compulsory health insurance."

This proposal is still being studied by the AMA and no commitment has yet been made on approval or opposition.

PRACTICAL COURSE FOR DOCTORS-TO-BE

What advantages do general practitioners have over specialists? How does a young doctor start his practice? What are some of the early problems he faces, and how can he solve them to his own and the community's advantage?

These are some of the questions which are discussed in a course on "The Practice of Medicine," offered at the University of Colorado School of Medicine. This course, which is intended to give medical students practical advice on the situations they will face at the start of their careers, is described by Dr. Gertrud Weiss, associate professor and acting head of the department of preventive medicine at the school, in the March issue of *The Journal of Medical Education.*

The study, which is offered in the junior year, is based on case history presentations, which are selected in advance. The students have time to study the cases, which cover such problems as the choice of locality and office space, relations with other doctors, fee setting, religion and patient attitude, and the business end of medical practice.

An appropriate resource person from the community is invited to appear at the scheduled seminars to discuss the particular case with small groups of students. Participation by the students is encouraged, and the lecturer often asks the students how they would solve the problem under discussion *before* he presents his lecture.

At present, a question which perturbs many medical students is the decision to enter general practice or to specialize. This problem is handled by a panel discussion between a general practitioner, an obstetrician, a pediatrician and an internist. Also, two general practitioners from small communities describe their practice and the situations they face. Dr. Weiss points out that this was the first time the students had met and been taught by general practitioners, and yet a poll taken at the end of the year showed that almost half of the junior class intended to enter general practice.

Public Health

STATE DENTAL HEALTH PROGRAM HAS MANY PHASES

Dental health has been a major concern of the Minnesota Department of Health for the past twenty years. It is recognized today as a legitimate public health concern because of the universal scope of the problem and the increasing effectiveness of preventive measures. In line with the philosophy that practicing dentists should have a basic knowledge of dental public health problems and programs, a series of lectures in this field was started in the School of Public Health, University of Minnesota, during the winter quarter of 1955, and will continue during winter and spring quarters each year.

The health department's dental health staff is much too limited to meet the numerous requests for help that come from all parts of the state. Hence, the plan usually followed is to give aid in setting up local programs with the co-operation of the dentists, public health nurses, school authorities, and citizen groups in communities requesting help, and then to turn over operation of the program as far as possible to the local people.

Outstanding dental health programs now in operation under the sponsorship of the Minnesota Department of Health include the following:

Topical Fluoride.—Three entire counties, comprising a total of 12 communities, plus nine other individual communities, have been aided in carrying out programs involving the topical application of fluoride to the teeth of children in grades 2, 5 and 8. Two new programs in this area are already planned for the fall of 1955. These topical fluoride programs provide field experience for senior dental hygiene students from the School of Public Health, University of Minnesota. The students assist professional staff members of the Section of Dental Health and the local dentists who give the fluoride treatments. Topical application of fluoride to children's teeth has been shown to reduce dental caries incidence on an average of 40 per cent.

Fluoridation of Community Water Supplies.—Projects in this area have been aided and promoted in 50 Minnesota communities. This program has been approved by the American Medical Association, American Public Health Association, and many other responsible professional groups. It has been demonstrated that continuous use of properly fluoridated drinking water by children during the period of tooth development reduces dental caries on an average of 65 per cent.

Research.—The Section of Dental Health is currently working on two research projects. The Askov demonstration was planned to demonstrate how much improvement can be effected in children's dental health when all known and available protective methods are used. This demonstration is now in its seventh year. Annual reports are published and are available on request. The other research project is being conducted in Mound, to determine the comparative value of sodium silicofluoride and two-per-cent sodium fluoride in controlling dental caries. A third study—on the effects of brushing the teeth with stannous fluoride—is planned to start in Bloomington schools next fall.

School Programs.—The Section of Dental Health sponsors and assists in a statewide dental health education program in all schools that wish to participate. During 1954, this program included 404,925 pupils in 3,101 public and parochial schools. (In the large cities, school boards operate their own school dental health programs.) Eighty-one of Minnesota's 87 counties were represented in the statewide program sponsored by the Department of Health.

Community Programs.—Each year the Section of Dental Health works closely with the Minnesota State Dental Association in planning and promoting educational programs for National Children's Dental Health day. These programs include radio and television broadcasts, exhibits, film showings, talks by dentists, and the distribution of Dental health literature.

In addition to these activities, staff members of the Section of Dental Health give many talks to P.T.A. groups, civic organizations, and schools, and participate in a number of conferences, workshops, short courses, and university classes. Last December, the Section of Dental Health participated in the first joint conference held in Minnesota for school superintendents, physicians and dentists. Dental health conferences have been held for youth leaders in six Minnesota counties, in collaboration with the State Dental Association. Recently a county-wide educational program was carried out in Pope county, when every school in the county was visited by a team of dental health educators. Section of Dental Health personnel assisted at a cavity detection x-ray exhibit at the Minnesota State Fair last year.

WILLIAM A. JORDAN, D.D.S., M.P.H.
Chief, Section of Dental Health
Minnesota Department of Health

Minnesota State Medical Association

102nd Annual Meeting

Minneapolis, Minnesota—May 23, 24 and 25, 1955

Preliminary Program

BUSINESS SESSIONS

Hotel Radisson

SATURDAY, MAY 21

2:00 P.M.—Council .....Admiral Room
6:00 P.M.—Council .....Admiral Room

SUNDAY, MAY 22

8:30 A.M.—Council .....Admiral Room
10:00 A.M.—Reference Committees ...Mezzanine Floor
2:00 P.M.—House of Delegates .....Gold Room
6:00 P.M.—Council .....Admiral Room
8:00 P.M.—House of Delegates .....Gold Room

MONDAY, MAY 23

8:30 A.M.—Council .....Admiral Room
12:15 P.M.—House of Delegates .....Gold Room

TUESDAY, MAY 24

8:30 A.M.—Council .....Admiral Room
8:30 A.M.—Committee Breakfasts
Rooms to be assigned

WEDNESDAY, MAY 25

8:30 A.M.—Council .....Admiral Room
8:30 A.M.—Committee Breakfasts
Rooms to be assigned

SOCIAL EVENTS

SUNDAY, MAY 22

6:30 P.M.—SPORTS EVENTS DINNER, Minneapolis Golf Club. All participants in golf, archery and skeet and trap shooting are invited to attend with their wives, a joint sports events dinner after the Sunday afternoon sports events.

MONDAY, MAY 23

Luncheons

12:15 P.M.—American Medical Women's Association, Inc., Minnesota Chapter. All women physicians are invited to attend.
12:30 P.M.—Minnesota Medical Foundation, Junior Ballroom, Hotel Radisson.
12:30 P.M.—Minnesota Society of Clinical Pathologists. Curtis Hotel.
12:30 P.M.—Minnesota Chapter, American College of Chest Physicians (place to be announced).

Dinners

6:00 P.M.—Minnesota Academy of General Practice. Ballroom, Hotel Radisson.
6:00 P.M.—Reunion, Class of 1905. Hotel Radisson.
6:30 P.M.—Minnesota Society of Clinical Pathologists. Curtis Hotel.

Open House

9:00 P.M.—Minnesota State Medical Association. Ballroom, Hotel Radisson.

TUESDAY, MAY 24

Dinner

7:00 P.M.—Minnesota State Medical Association, Annual Banquet, Ballroom, Hotel Radisson.

ROUND TABLES

Hotel Radisson—12:15 P.M.

MONDAY, MAY 23

Newer Insulins .....MOSES BARRON, Minneapolis
Office Treatment of Foot Complaints
W. J. McDONALD, Crookston
Diverticulitis of the Colon..DAVID P. ANDERSON, Austin
The Injured Nose .....JEROME A. HILGER, St. Paul
Oxygen Therapy in the Premature Infant
R. P. BUCKLEY, Duluth
ROBERT W. HOLLENHORST, Rochester
Disorders Simulating Coronary Disease
ASHER A. WHITE, Minneapolis
The Changing Status of Cesarean Section
C. O. MCCORMICK, Indianapolis, Ind.

TUESDAY, MAY 24

Office Gynecology .....EDWARD A. BANNER, Rochester
Emergency Treatment of Head Injuries
WALLACE P. RITCHIE, St. Paul
Blood Transfusions in Therapy
T. H. SELDON, Rochester
Eczema in Childhood
ALBERT V. STOESSER, Minneapolis
Vaginal Procidentia and Stress and Continence
J. H. PRATT, Rochester
The University In-Patient Psychiatric Service for Children..REYNOLD A. JENSEN, University of Minnesota
Defibrination Syndrome
HAROLD A. OH, Royal Oak, Michigan

WEDNESDAY, MAY 25

Spinal Puncture Headache.....L. R. GOWAN, Duluth
Anti-hypertensive Drugs
ARTHUR C. KERKHOF, Minneapolis
Problems of Sudden Death
ARTHUR C. AUFDERHEIDE, Duluth
Treatment of Birthmarks ....JOHN F. SCHMID, Duluth
Urethral Strictures in Young Females
EDWARD J. RICHARDSON, St. Paul
EDWARD L. STREM, St. Paul
Convulsive States .....JOSEPH A. RESCH, Minneapolis
Pregnancy Associated with Heart Disease
JOHN E. FABER, Rochester
Fulminating Eclampsia
JACK A. PRITCHARD, Cleveland, Ohio

GENERAL SESSION
Minneapolis Auditorium
MONDAY, MAY 23

Morning Session

A.M.

8:30 Visit Scientific and Technical Exhibits
Auditorium

9:00 Closed Circuit Color Television ....Auditorium
Surgical Procedures—General Surgery

Intermission

10:15 Visit Scientific and Technical Exhibits
Auditorium

11:00 RUSSELL D. CARMAN MEMORIAL LECTURE
"The Position of Radiology in Cardiovascular Diagnosis"
FRED J. HODGES, Ann Arbor, Professor and Chairman Department of Radiology, University of Michigan

11:30 MINNESOTA HEART ASSOCIATION LECTURE
"Diagnostic Cardiac Silhouettes and Electrocardiograms"
ARTHUR MASTER, New York, Associate Clinical Professor of Medicine, Columbia University

P.M.

12:15 Miscellaneous Luncheons
Round-Table Luncheons

Afternoon Session

1:30 Visit Scientific and Technical Exhibits
Auditorium

2:00 Closed Circuit Color Television.....Auditorium
Clinical Procedures—Orthopedics

Intermission

3:15 Visit Scientific and Technical Exhibits
Auditorium

4:00 ARTHUR H. SANFORD MEMORIAL LECTURE
"Enigmas in Lymphoma: The Reticulum Cell and Mycosis Fungoides"
EDWARD A. GALL, Cincinnati, Ohio Professor of Pathology, College of Medicine, University of Cincinnati

4:30 MINNESOTA DIVISION, AMERICAN CANCER SOCIETY LECTURE
"Causal and Preventive Aspects of Environmental Cancer"
W. C. HUEPER, Chief, Environmental Cancer Section, National Cancer Institute, Bethesda, Maryland

5:15 Visit Scientific and Technical Exhibits
Auditorium

6:00 Special Dinners

9:00 Open House .....Hotel Radisson

GENERAL SESSION
Minneapolis Auditorium
TUESDAY, MAY 24

Morning Session

A.M.

8:30 Visit Scientific and Technical Exhibits
Auditorium

9:00 Closed Circuit Color Television ....Auditorium
Surgical Procedures—Obstetrics and Gynecology

Intermission

10:15 Visit Scientific and Technical Exhibits
Auditorium

11:00 NORTHWESTERN PEDIATRIC SOCIETY LECTURE
"The Diabetic Child"
JOHN A. ANDERSON, Professor and Head, Department of Pediatrics, University of Minnesota

11:30 MINNESOTA MEDICAL FOUNDATION LECTURE
"Present-Day Concepts of Diabetes Mellitus"
ARNOLD LAZAROW, Professor and Head, Department of Anatomy, University of Minnesota

P.M.

12:15 Round-Table Luncheons

Afternoon Session

1:30 Visit Scientific and Technical Exhibits
Auditorium

2:00 Closed Circuit Color Television.....Auditorium
Clinical Procedures—Medicine

Intermission

3:15 Visit Scientific and Technical Exhibits
Auditorium

4:00 OBSTETRICAL SYMPOSIUM....Auditorium
Moderator—JAMES J. SWENDSON, St. Paul
"Current Report on the Minnesota Maternal Mortality Study"
ALEX BARNO, Minneapolis
"Obstetric Anesthesiology"
JOHN OSBORN, Rochester
"Foibles and Pitfalls in Obstetric Hemorrhage"
HAROLD A. OTT, Royal Oak, Michigan

5:15 Visit Scientific and Technical Exhibits
Auditorium

Evening Entertainment

7:00 ANNUAL BANQUET
Grand Ballroom, Hotel Radisson

GENERAL SESSION
Minneapolis Auditorium

WEDNESDAY, MAY 25
Morning Session

A.M.

8:30 Visit Scientific and Technical Exhibits
Auditorium

9:00 Closed Circuit Color Television ....Auditorium
Surgical Procedures—Vascular Disease

Intermission

10:15 Visit Scientific and Technical Exhibits
Auditorium

11:00 "Management of Severe Hand Injuries"
Auditorium
LESTER W. CARLANDER, Minneapolis

11:30 "Bleeding from the Genito-urinary Tract"
Auditorium
O. E. SARFF, Duluth

P.M.

12:15 Round-Table Luncheons

Afternoon Session

P.M.

1:30 Visit Scientific and Technical Exhibits
Auditorium

2:00 Closed Circuit Color Television.....Auditorium
Surgical Procedures—Proctology

3:15 WHAT'S NEW IN MEDICINE?
Auditorium
Moderator—H. F. R. PLASS, Minneapolis

"Cardiac Trauma"
RICHARD B. TREGILGAS, St. Paul

"Management of Diabetes with Insulin"
DALE H. CORREA, Minneapolis

"Modern Ulcer Management"
R. S. YLVISAKER, Minneapolis

"Anticoagulant Therapy"
JOHN J. BOEHRER, Minneapolis

"Thorazine and Rauwolfia"
C. O. ERICKSON, Minneapolis

4:30 Adjournment

ARCHERY TOURNAMENT AT ANNUAL MEETING

The First Archery Tournament for physicians will be held at 1:00 p.m., Sunday, May 22, just prior to the annual meeting of the Minnesota State Medical Association. Nokomis Archery Range, located in the park adjoining Lake Nokomis on the corner of 50th street and 54th avenue south, Minneapolis, will be the scene of this contest.

This is the first time that an archery contest has been offered as one of the sports events sponsored by the Minnesota State Medical Association. As far as is known, this is the first archery tournament ever offered in the United States exclusively for members of the medical profession. This is an experiment, and it is hoped that a sufficient number of physicians will participate in this contest to justify repeating it in future years.

The contest will be simple and not too demanding. A Junior American Round will be shot consisting of 30 arrows at 50 yards, 30 arrows at 40 yards and 30 arrows at 30 yards. Two classes of archers may compete—an instinctive group which shoots without the aid of a bow sight and a free style group which uses a bow sight. Suitable trophies will be presented to the first three winners in each class. Entrance fee will be $1.00.

Robert Rhode, Minnesota State Archery champion and United States National Target champion, will set up and conduct this archery contest. In June, Robert Rhode will be the American representative to the International World Championship Archery contest to be held in Helsinki, Finland.

Participants in sports events are invited to attend with their wives a sports events dinner at 6:30 p.m., Sunday, May 22, at the Minneapolis Golf Club, South Cedar Lake Road and Flagg Avenue, following the various events of the day. Tickets are $4.50, gratuity included. Entertainment for doctors' wives will be provided during the afternoon. This is an informal dinner, and sports participants are urged to attend the dinner as they are.

The success of this contest requires the participation of all physicians who are archery enthusiasts. Contact either Carl O. Rice, M.D., 1635 Medical Arts Building, Minneapolis 2, or George M. Tangen, M.D., 1427 Medical Arts Building, Minneapolis 2, for further details on this event.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

230 Lowry Medical Arts Bldg., Saint Paul, Minnesota

F. H. Magney, M.D., Secretary

PHYSICIANS LICENSED FEBRUARY 12, 1954

January, 1954, Examination

Name	*School*		*Address*
AXLER, Gueri	U. of Beirut, Lebanon	MD 1947	1018 Lowry Medical Arts Bldg., St. Paul, Minn.
BAUER, Paul Gregory	U. of Minnesota	MD 1951	8-A NW 4th St., Faribault, Minn.
BENTHACK, Elaine Marguerite	U. of Nebraska	MD 1949	Student Health Service, U. of Minn., Minneapolis, Minn.
BOWERS, Dorrance	U. of Toronto	MD 1949	200 1st St., S.W., Rochester, Minn.
BRANNICK, Thomas Leonard	U. of Illinois	MD 1952	200 1st St., S.W., Rochester, Minn.
CAREY, Lewis Stafford de Sausmarez	Queen's U.	MD 1950	200 1st St., S.W., Rochester, Minn.
CELLA, JR., Joseph Anthony	Marquette U.	MD 1952	St. Mary's Hospital, Minneapolis, Minn.
CONNOLLY, Joseph Patrick	St. Louis U.	MD 1952	1074 S. Robert St., W. St. Paul, Minn.
DIERKER, Heinrich	Friedrich Wilhelm U., Berlin, Germany	MD 1938	23 4th St., S.E., Minneapolis, Minn.
FISCHER, Robert Francis	U. of Minnesota	MD 1953	1266 Lowry Medical Arts Bldg., St. Paul, Minn.
FRICK, Paul	U. of Zurich, Switzerland	MD 1948	U. of Minn. Hospitals, Minneapolis, Minn.
GARDNER, Jack Kelly	State U. of Iowa	MD 1953	Northwestern Hosp., Minneapolis, Minn.
HARSHBARGER, Harry Glen	U. of Illinois	MD 1950	200 1st St., S.W., Rochester, Minn.
HESKEL, Milton M.	U. of Pennsylvania	MD 1948	200 1st St., S.W., Rochester, Minn.
KIPPEN, Neil Ralph	U. of Manitoba	MD 1948	Breckenridge Clinic, Breckenridge, Minn.
KODRES, Nina	Leopold Franciscus U., Innsbruck, Austria	MD 1950	462 S. Robert St., St. Paul, Minn.
LEINONEN, Wendla E.	U. of Minnesota	MD 1953	201 Jefferson St., S., Wadena, Minn.
LEVIN, Manly Bernard	U. of Manitoba	MD 1952	200 1st St., S.W., Rochester, Minn.
MacDONALD, Hugh Neil Archibald	Dalhousie U.	MD 1953	200 1st St., S.W., Rochester, Minn.
MacDONALD, Mary Joyce	Dalhousie U.	MD 1953	1421 4th Ave., S.W., Rochester, Minn.
MACHELEDT, Neil Lester	U. of Minnesota	MD 1953	201 Jefferson St., S., Wadena, Minn.
MacLEAN, Lloyd Douglas	U. of Alberta	MD 1949	U. of Minnesota Hospitals, Minneapolis, Minn.
MADALIN, Herbert Edward	U. of Michigan	MD 1952	200 1st St., S.W., Rochester, Minn.
MAHONEY, Jack Lawrence	Jefferson Med. Col.	MD 1952	200 1st St., S.W., Rochester, Minn.
NELSON, Erland Randall	Columbia U	MD 1951	4221 Standish Ave. S., Minneapolis, Minn.
NEWTON, William Evans	McGill U.	MD 1951	620 View St., Victoria, B.C., Canada
OPFELL, Harriet Monson	State U. of Iowa	MD 1949	200 1st St., S.W., Rochester, Minn.
POLLARD, William Stanley	U. of Manitoba	MD 1949	200 1st St., S.W., Rochester, Minn.
RUDY, Warren B.	Northwestern U.	MD 1951	U. of Minnesota Hospitals, Minneapolis, Minn.
SCHMID, Rudolf	U. of Zurich, Switzerland	MD 1950	Columbia U., 630 W. 168 St., New York, N. Y.
SCHUMACHER, Otto Peter	Johns Hopkins U.	MD 1952	200 1st St., S.W., Rochester, Minn.
TURNER, John Jacob	Harvard U.	MD 1952	200 1st St., S.W., Rochester, Minn.

Reciprocity Candidates

Name	*School*		*Address*
ANDREW, William Fredrick	Washington U., Mo.	MD 1945	205 W. 2nd St., Duluth, Minn.
ANTONOW, Arthur Marshall	Indiana U.	MD 1945	6th Ave. and 9th St., N., Virginia, Minn.
BULLUCK, Matt Heyer	U. of Maryland	MD 1948	200 1st St., S.W., Rochester, Minn.
EPSTEIN, John Howard	U. of California	MD 1952	200 1st St., S.W., Rochester, Minn.
FITE, James Mitchell	U. of Virginia	MD 1952	U. of Minn. Hosp., Minneapolis, Minn.
FUQUAY, Maurice Coyle	U. of Oklahoma	MD 1952	200 1st St., S.W., Rochester, Minn.
GOULD, JR., Allan Bryant	Jefferson Med. Col.	MD 1952	200 1st St., S.W., Rochester, Minn.
HERBERT, Edna Eva	Creighton U.	MD 1952	200 1st St., S.W., Rochester, Minn.
HOOKER, Theodore Challence	U. of Chicago	MD 1949	200 1st St., S.W., Rochester, Minn.
KEMPER, James Willard	Indiana U.	MD 1952	200 1st St., S.W., Rochester, Minn.
KRUEGER, JR., Julius Thomas	Tulane U.	MD 1952	200 1st St., S.W., Rochester, Minn.
LUNDSTEN, Lloyd Richmond	Stanford U.	MD 1952	200 1st St., S.W., Rochester, Minn.

MARTINOV, William Edgar	Indiana U.	MD 1948	200 1st St., S.W., Rochester, Minn.
PIPER, JR., Charles E.	U. of Pittsburgh	MD 1952	200 1st St., S.W., Rochester, Minn.
SCHAEFER, Kenneth Franklyn	U. of Pennsylvania	MD 1941	Prudential Insurance Co., Minneapolis, Minn.
SCHLESINGER, Martin R.	U. of Pittsburgh	MD 1944	9040 Sunland Blvd., Sun Valley, Calif.
SCHNEIDER, John Phillip	Tulane U.	MD 1952	200 1st St., S.W., Rochester, Minn.
SCHULTZ, Herman Joseph	U. of Texas	MD 1952	200 1st St., S.W., Rochester, Minn.
SEAY, III, James Elbert	U. of Pennsylvania	MD 1952	200 1st St., S.W., Rochester, Minn.
SOMMERVILLE, Robert L.	Med. Col. of Virginia	MD 1946	200 1st St., S.W., Rochester, Minn.
WHITE, Malcolm Eugene	Louisiana State U.	MD 1945	200 1st St., S.W., Rochester, Minn.
WINDESHEIM, John Henry	U. of California	MD 1952	200 1st St., S.W., Rochester, Minn.

National Board Candidates

Name	*School*		*Address*
CARLON, Donald L.	State U. New York	MD 1952	200 1st St., S.W., Rochester, Minn.
CIRIACY, Edward Walter	Temple U.	MD 1952	208 E. Chapman St., Ely, Minn.
COLOSEY, Frederick John	Temple U.	MD 1952	208 E. Chapman St., Ely, Minn.
CORNELIUS, Eugene Albert	U. of Toronto	MD 1952	200 1st St., S.W., Rochester, Minn.
FLOR, Frank Stephen	N. Y. Med. Col.	MD 1952	200 1st St., S.W., Rochester, Minn.
GARONO, Barbara Jane	U. of Buffalo	MD 1952	200 1st St., S.W., Rochester, Minn.
HAMBIDGE, Jr., Gove	Yale U.	MD 1945	U. of Minn. Hosp., Minneapolis, Minn.
HARTWIG, John Arnold	U. of Minnesota	MD 1953	200 1st St., S.W., Rochester, Minn.
HONAKER, Walker	U. of Colorado	MD 1945	200 1st St., S.W., Rochester, Minn.
HOWELL, Milton M.	U. of Rochester	MD 1952	624 Franklin Ave., Glencoe, Minn.
KIBLER, Charles Eugene	Johns Hopkins U.	MD 1948	200 1st St., S.W., Rochester, Minn.
KYLE, Robert A.	Northwestern U.	MD 1952	200 1st St., S.W., Rochester, Minn.
OLSON, Rolland Alfred	Col. Med. Evang.	MD 1945	Box 548, Wayzata, Minn.
PAWLIAS, Kenneth Theodore	Loyola U.	MD 1952	200 1st St., S.W., Rochester, Minn.
PINSKY, Harry Joseph	U. of Rochester	MD 1951	Strong Memorial Hospital, Rochester, N. Y.
REED, William Byron	Columbia U.	MD 1952	200 1st St., S.W., Rochester, Minn.
SCHERER, William Franklin	U. of Rochester	MD 1947	U. of Minn. Faculty Dept., Minneapolis, Minn.
SCHOLL, Virginia May	U. of Oregon	MD 1951	2447 N.W. Westover Rd., Portland, Ore.
WATKINS, Jr., Lee Clifford	Harvard U.	MD 1952	200 1st St., S.W., Rochester, Minn.
WILSON, William Sleight	U. of Pennsylvania	MD 1950	U. Michigan Medical School, Ann Arbor, Mich.

March, 1954, Examination

Name	*School*		*Address*
CAMERON, Dale Corbin	U. of Nebraska	MD 1936	117 University Ave., St. Paul, Minn.

PHYSICIANS LICENSED May 14, 1954

April, 1954 Examination

Name	*School*		*Address*
ANDERSON, Donald Albert	U. of Chicago	MD 1951	99 Williamsburg Road, Evanston, Ill.
BACHEM, Maria	U. of Wurzburg, Germany	MD 1939	St. Luke's Hospital, St. Paul, Minn.
BIRD, Grant Sutton	U. of Toronto	MD 1951	200 1st St., S.W., Rochester, Minn.
BRANDT, Henry Erwin	U. of Minnesota	MD 1953	3441 3rd Ave. S., Minneapolis, Minn.
BRUWER, Andre Johannes	U. of Cape Town, So. Africa	Bach. Med. Bach. Surg. 1942	200 1st St., S.W., Rochester, Minn.
BULL, Frances Eleanor	U. of Michigan	MD 1952	200 1st St., S.W., Rochester, Minn.
CAPLINGER, Robert Allan	U. of Michigan	MD 1952	200 1st St., S.W., Rochester, Minn.
COTÉ, Robert	Laval U.	MD 1951	200 1st St., S.W., Rochester, Minn.
DEHNEL, Luther Lenker	U. of Minnesota	MD 1953	Veterans' Adm. Hospital, Minneapolis, Minn.
EWENS, George Brown	U. of Minnesota	MD 1953	Ancker Hospital, St. Paul, Minn.
FURR, Leo O'Neil	St. Louis U.	MD 1953	Bird Island, Minn.
HODGINS, Thomas Emerson	U. of Western Ontario	MD 1951	200 1st St., S.W., Rochester, Minn.
JACKSON, Sidney Charles	Harvard U.	MD 1945	200 1st St., S.W., Rochester, Minn.
KELLNER, Hildegard	U. of Halle, E. Germany	MD 1947	State Hospital, Hastings, Minn.
LARSON, Keith Delmar	Northwestern U.	MD 1941	Moose Lake State Hospital, Moose Lake, Minn.
LINDBERG, Arthur Nathaniel	U. of Minnesota	MD 1953	538 LaSalle Bldg., Minneapolis, Minn.

MATEO, Guillermo	U. of Chicago	MD 1948	1163 Lowry Medical Arts Bldg., St. Paul, Minn.
MATTHEWS, Jr., Louis Brown	U. of Tennessee	MD 1949	200 1st St., S.W., Rochester, Minn.
MAUS, Philip Walter	U. of Minnesota	MD 1953	USAF Dispensary, APO 825, New Orleans, La.
McCASLIN, Jr., Frank Erwin	U. of Oregon	MD 1953	02430 S.W. Military Rd., Portland, Ore.
McINTOSH, James Eugene	U. of Chicago	MD 1952	U. of Minn. Hosp., Minneapolis, Minn.
METZ, Donald Delwin	Marquette U.	MD 1953	Buffalo Lake, Minn.
MULLER, Rudolf	U. of Marburg, Germany	MD 1945	Richmond, Minn.
MURPHY, Vincent John	U. of Alberta	MD 1951	200 1st St., S.W., Rochester, Minn.
NEHER, Frederick James	Harvard U.	MD 1952	U. of Minn. Hosp., Minneapolis, Minn.
OLSON, Robert Charles	Marquette U.	MD 1953	205 E. Walnut St., Green Bay, Wis.
ORCHARD, Jr., Welland John	U. of Colorado	MD 1953	727 Broadway, Fargo, No. Dak.
PHILLIPS, Donald Francis	Tufts U.	MD 1949	200 1st St., S.W., Rochester, Minn.
PRIBEK, Robert Andrew	Marquette U.	MD 1953	Veterans' Adm. Hospital, Wood, Wis.
ROTTENBERG, Everett Newton	U. of Michigan	MD 1952	200 1st St., S.W., Rochester, Minn.
ROVELSTAD, Roger Andrew	Northwestern U.	MD 1953	221 E. First St., Fairmont, Minn.
SCAPPATURA, Antonio Rudolfo	U. of Ottawa	MD 1952	200 1st St., S.W., Rochester, Minn.
SCHOSSOW, George William	U. of Nebraska	MD 1953	Erskine, Minn.
SEGAL, Edward L.	U. of Minnesota	MD 1953	U. of Minn. Hosp., Minneapolis, Minn.
SEMLER, Herbert Joseph	U. of Oregon	MD 1953	200 1st St., S.W., Rochester, Minn.
SWERDLOW, Ralph Hyman	U. of Illinois	MD 1949	3415 Emerson Ave. S., Minneapolis, Minn.
TAUXE, Welby Newlon	U. of Tennessee	MD 1950	200 1st St., S.W., Rochester, Minn.
THOMPSON, Ardell Henry	U. of Minnesota	MD 1953	35 E. 4th, Litchfield, Minn.
THORGERSEN, Thor Magnus	Marquette U.	MD 1953	R.F.D. No. 3, Rochester, Minn.
TUURA, James Lynn	U. of Wisconsin	MD 1953	U. of Wisconsin Hospital, Madison, Wis.
VREELAND, Karl Edward	U. of Oregon	MD 1953	916 N. Tacoma Ave., Tacoma, Wash.
WATSON, Robert Neil	U. of Illinois	MD 1953	Wood Veterans' Adm. Hospital, Wood, Wisconsin
WEIL, Max Harry	U. of New York	MD 1952	U. of Minn. Hosp., Minneapolis, Minn.
WILCOX, William A.	Northwestern U.	MD 1950	Veterans' Adm. Hospitals, Minneapolis, Minn.
YUE, Wen Yao	St. John's U., Shanghai, China	MD 1945	Glen Lake San., Oak Terrace, Minn.

Reciprocity Candidates

Name	*School*		*Address*
BARTZEN, Peter James	Marquette U.	MD 1948	205 W. 2nd St., Duluth, Minn.
CAMPBELL, Jr., Gilbert Sadler	U. of Virginia	MD 1946	U. of Minn. Hosp., Minneapolis, Minn.
CORR, Donald John	Stanford U.	MD 1953	200 1st St., S.W., Rochester, Minn.
CROWLEY, Jr., William Patrick	U. of Wisconsin	MD 1952	200 1st St., S.W., Rochester, Minn.
DICKINSON, Lane Sawyer	U. of Rochester	MD 1949	200 1st St., S.W., Rochester, Minn.
DOWNING, William Conrad	Western Reserve U.	MD 1945	220 S. Broadway, Crookston, Minn.
GURNETT, Thomas Joseph	Creighton U.	MD 1946	200 1st St., S.W., Rochester, Minn.
KNIGHT, James Harry	U. of California	MD 1951	200 1st St., S.W., Rochester, Minn.
LUBY, Thomas Harry	U. of Nebraska	MD 1952	200 1st St., S.W., Rochester, Minn.
PATTEE, James J.	Creighton U.	MD 1953	5615 Hampshire Ave. N., Minneapolis, Minn.
PEARCE, Jr., Francis Marion	Tulane U.	MD 1951	200 1st St., S.W., Rochester, Minn.
RODENBAUGH, Fredrich Hase	Stanford U.	MD 1953	200 1st St., S.W., Rochester, Minn.
SARNO, John Anthony	Hahnemann Med. Col.	MD 1946	318 N. Labree Ave., Thief River Falls, Minn.
SELZER, Donald Wright	U. of Kansas	MD 1947	200 1st St., S.W., Rochester, Minn.
SMID, Arthur Charles	Creighton U.	MD 1948	200 1st St., S.W., Rochester, Minn.
STAHL, George William	U. of Wisconsin	MD 1950	404½ N. Main, Austin, Minn.
WATSON, Virgil Austin	St. Louis U.	MD 1949	Bronson Methodist Hospital, Kalamazoo, Mich.

National Board Candidates

Name	*School*		*Address*
CONKLIN, Frances Phillips	U. of Vermont	MD 1951	U. of Minn. Hosp., Minneapolis, Minn.
COOK, Jr., Roderick Walker	Temple U.	MD 1951	200 1st St., S.W., Rochester, Minn.
JIM, Vernon Kang Sung	U. of Chicago	MD 1944	200 1st St., S.W., Rochester, Minn.
McNEAR, Jr., George Roger	Cornell U.	MD 1947	Mankato Clinic, Mankato, Minn.
MOERSCH, Richard Norval	Harvard U.	MD 1952	200 1st St., S.W., Rochester, Minn.
ROBBINS, Arnold Robert	N. Y. Med. Col.	MD 1947	Heron Lake, Minn.
VASSALOTTI, Margaret J.	Woman's Med. Col., Pa.	MD 1952	200 1st St., S.W., Rochester, Minn.
WOLD, Keith Clinton	U. of Vermont	MD 1951	852 Lowry Medical Arts Bldg., St. Paul, Minn.

PHYSICIANS LICENSED JULY 16, 1954

June, 1954, Examination

Name	*School*		*Address*
ABRAMS, Jr., Alexander	U. of Minnesota	MD 1954	St. Joseph's Hospital, St. Paul, Minn.
AHLSTROM, Robert Clarence	U. of Minnesota	MD 1954	Ancker Hospital, St. Paul, Minn.
ANDERSON, Eunice Rose	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
ANDERSON, William Evan	U. of Minnesota	MD 1954	St. Luke's Hospital, Duluth, Minn.
ANONSEN, Richard Eldon	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
APPLEN, John Ellsworth	U. of Minnesota	MD 1954	U.S.P.H.S. Hospital, Baltimore, Md.
ARONSOHN, Richard Burton	U. of Minnesota	MD 1953	1515 Charles Ave., St. Paul, Minn.
BAH, Merle Charles	U. of Minnesota	MD 1954	St. Luke's Hospital, Duluth, Minn.
BAKEN, Jr., Melvin Palmer	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
BELL, Donald Craig	U. of Minnesota	MD 1953	200 1st St., S.W., Rochester, Minn.
BERGLUND, Jr., Alvin E.	U. of Minnesota	MD 1954	St. Luke's Hospital, Duluth, Minn.
BESSER, Vera	U. of Minnesota	MD 1953	Anoka State Hospital, Anoka, Minn.
BRAUTI, Erling Frederick	U. of Oregon	MD 1953	Mpls. Gen. Hospital, Minneapolis, Minn.
BRIGGS, Brian Earl	U. of Minnesota	MD 1954	St. Mary's Hospital, Duluth, Minn.
BROWN, Jr., James Edward	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
BURGER, Thomas Charles	St. Louis U.	MD 1949	200 1st St., S.W., Rochester, Minn.
BURKE, Gerald F.	U. of Minnesota	MD 1954	Hartford Hospital, Hartford, Conn.
BURNSIDE, Jr., Alfred Flournoy	Med. Col. of So. Carolina	MD 1952	200 1st St., S.W., Rochester, Minn.
BUTZER, John Francis	Loyola U.	MD 1953	203 Nat. City Bank Bldg., Mankato, Minn.
CALLAN, Joseph Albert	U. of Minnesota	MD 1954	Hurley Hospital, Flint, Mich.
CAMPBELL, Wayne Leigh	U. of Minnesota	MD 1954	St. Luke's Hospital, Duluth, Minn.
CARLSON, Robert Gerald	U. of Minnesota	MD 1954	U. of Oregon Hospital, Portland, Ore.
CASEY, James Hugh	Marquette U.	MD 1951	U. of Minn. Hosp., Minneapolis, Minn.
CHRISTENSEN, Warren Albert	U. of Minnesota	MD 1954	Kaiser Foundation Hospital, Oakland, Calif.
CLARK, William Bruce	U. of Minnesota	MD 1954	401 E. 2nd St., Duluth, Minn.
DECKER, James Windsor	U. of Minnesota	MD 1954	Los Angeles County Hospital, Los Angeles, Calif.
DECKER, Kathleen Hogan	U. of Minnesota	MD 1954	Los Angeles County Hospital, Los Angeles, Calif.
DENNIS, Frank De Atley	U. of Minnesota	MD 1954	Denver General Hospital, Denver, Colo.
DITMANSON, Marcy Leroy	U. of Minnesota	MD 1954	Ancker Hospital, St. Paul, Minn.
DONALDSON, James Adrian	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
DORSEY, Jr., George Charles	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
DUNPHY, Stephen R.	U. of Minnesota	MD 1954	St. Luke's Hospital, Denver, Colo.
DYRDAL, Paul Jerome	U. of Minnesota	MD 1954	St. Joseph's Hospital, St. Paul, Minn.
ELLINGSON, William Lyle	U. of Minnesota	MD 1954	Los Angeles County Hospital, Los Angeles, Calif.
ETTINGER, Milton G.	U. of Minnesota	MD 1954	Vets' Adm. Hosp., Long Beach, Calif.
EVERS, William	Fed. Institute of Med., Samarkand, Russia	MD 1945	214 Wesley Temple Bldg., Minneapolis, Minn.
FEDOR, Robert D.	U. of Minnesota	MD 1954	Chas. T. Miller Hospital, St. Paul, Minn.
FELLER, William Frank	U. of Minnesota	MD 1954	U. of Minn. Hosp., Minneapolis, Minn.
FINGERHUT, Aaron Gerald	U. of Minnesota	MD 1954	Wm. Beaumont Army Hospital, El Paso, Texas
FINLEY, Richard Clayton	U. of Minnesota	MD 1954	St. Luke's Hospital, Duluth, Minn.
GAARDER, Kenneth Ray	U. of Minnesota	MD 1954	Detroit Receiving Hosp., Detroit, Mich.
GAEBE, Milton B.	U. of Louisville	MD 1953	Tholen Bldg., Clara City, Minn.
GAMM, Edgar R.	U. of Minnesota	MD 1954	Ancker Hospital, St. Paul, Minn.
GEIST, Robert Williams	U. of Minnesota	MD 1954	Philadelphia General Hospital, Philadelphia, Pa.
GEORGE, Jr., Vane P.	U. of Rochester	MD 1952	737 E. 22nd St., Minneapolis, Minn.
GISLASON, Paul Harold	U. of Maryland	MD 1952	7233 Pillsbury Ave. S., Minneapolis, Minn.
GOEHRS, Homer Richard	Baylor U.	MD 1950	200 1st St., S.W., Rochester, Minn.
GREENE, Leonard H.	U. of Minnesota	MD 1954	Broadlawns Polk Co. Hospital, Des Moines, Iowa
GRIMES, Paul Thomas	U. of Minnesota	MD 1954	Harrisburg Hospital, Harrisburg, Pa.
GULLEN, Warren Hartley	U. of Minnesota	MD 1954	Vets' Adm. Hosp., Long Beach, Calif.
GUNSOLUS, John Martin	U. of Minnesota	MD 1952	940 E. 4th St., Stuart, Fla.
HAGLUND, Roger V.	U. of Minnesota	MD 1954	U.S.P.H.S. Hospital, Seattle, Wash.
HANDLER, Seymour	U. of Minnesota	MD 1953	101 7th Ave. S., St. Cloud, Minn.
HANSON, Kent Oscar	U. of Minnesota	MD 1954	Denver General Hospital, Denver, Colo.
HAUGAN, Norman Rye	U. of Minnesota	MD 1953	119 N. Broadway, Crookston, Minn.
HAUKENESS, Stanley J.	U. of Minnesota	MD 1954	King County Hospital, Seattle, Wash.
HEDRICK, William Louis	U. of Minnesota	MD 1954	Detroit Receiving Hosp., Detroit, Mich.
HEETDERKS, Jr., Bernard John	U. of Minnesota	MD 1954	Ancker Hospital, St. Paul, Minn.
HILL, John Paul	Northwestern U.	MD 1952	401 1st Ave. So., Virginia, Minn.
HODGES, Kenneth Verplank	U. of Minnesota	MD 1954	Gorgas Hospital, Ancon, Canal Zone

HOTTINGER, George Creighton	U. of Minnesota	MD 1954	34 Primrose Place, New Dorp, S.I. 6, New York
HULTENG, Donald Bruce	U. of Minnesota	MD 1954	Ancker Hospital, St. Paul, Minn.
JENNE, John William	U. of Minnesota	MD 1954	Williamsport Hospital, Williamsport, Pa.
JERNBERG, Kenneth Irving	U. of Minnesota	MD 1954	King County Hospital, Seattle, Wash.
JOHNSON, Emery Allen	U. of Minnesota	MD 1954	Asbury Meth. Hosp., Minneapolis, Minn.
JOHNSON, Ronald Glen	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
JOHNSON, Jr., Thomas Harrington	U. of Minnesota	MD 1954	Mount Sinai Hospital, Minneapolis, Minn.
JORGENSEN, Edward Olaf	U. of Minnesota	MD 1954	St. Luke's Hospital, Duluth, Minn.
KATKOV, Morris Ralph	U. of Minnesota	MD 1954	Highland-Alameda Co. Hospital, Oakland, Calif.
KAUTH, John Edward	U. of Minnesota	MD 1954	Mercy Hospital, Toledo, Ohio
KOSIAK, Michael	U. of Minnesota	MD 1954	Minn. Gen. Hospital, Minneapolis, Minn.
KOTTKE, Bruce Allen	U. of Minnesota	MD 1954	Indianapolis Gen. Hospital, Indianapolis, Ind.
KREBSBACH, Richard James	U. of Minnesota	MD 1954	Vets' Adm. Hosp., Long Beach, Calif.
KRIVIT, William	Tulane U.	MD 1948	U. of Minn. Hosp., Minneapolis, Minn.
KUHLMANN, Vernon George	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
LABERGE, Martin	Laval U.	MD 1951	200 1st St., S.W., Rochester, Minn.
LARSEN, Martha Carlisle	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
LARSON, Arthur King	U. of Pittsburgh	MD 1953	Children's Hospital, Pittsburgh, Pa.
LARSON, Arthur Norman	U. of Minnesota	MD 1954	U. of Minn. Hosp., Minneapolis, Minn.
LARSON, Dorette Wheat	U. of Minnesota	MD 1954	Mt. Sinai Hosp., Minneapolis, Minn.
LEON, Paul Roy	U. of Minnesota	MD 1954	St. Mary's Hospital, Grand Rapids, Mich.
LILLINGTON, Glen Alan	U. of Manitoba	MD 1951	200 1st St., S.W., Rochester, Minn.
LINDAHL, James Bushnell	U. of Minnesota	MD 1954	Wm. Beaumont Army Hospital, El Paso, Texas
LITKEWITSCH, Helene	Med. Inst. Charkow, Ukraine	1935 "Physician"	St. Luke's Hospital, St. Paul, Minn.
LITTLE, James McNair	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
LUKK, Olaf	Eberhard-Karls U. Tubingen, Germany	1949 "Physician"	Gosewisch Bldg., Montgomery, Minn.
LYNN, Carol Lavon	U. of Minnesota	MD 1954	Highland Alameda Co. Hospital, Oakland, Calif.
LYNNER, Robert Ecklund	U. of Minnesota	MD 1954	City Hospital, Akron, Ohio
MAST, Fredric L.	U. of Minnesota	MD 1954	St. Joseph's Hospital, St. Paul, Minn.
MATTSON, Donald Sheldon	U. of Minnesota	MD 1954	Asbury Meth. Hosp., Minneapolis, Minn.
McALLISTER, Robert Lynn	U. of Minnesota	MD 1954	Vets' Adm. Hosp., Long Beach, Calif.
McCARTHY, Charles Joseph	U. of Minnesota	MD 1954	9344 Genessee Ave., Detroit, Mich.
MEGER, Gene Edward	U. of Minnesota	MD 1954	Philadelphia Gen. Hospital, Philadelphia, Pa.
MERKEL, Giles Gene	U. of Minnesota	MD 1954	4540 W. 10th Ave., Phoenix, Ariz.
MEYER, Richard Hollister	U. of Minnesota	MD 1954	Presbyterian Hospital, Chicago. Ill.
MIETTUNEN, John Bernard	U. of Minnesota	MD 1953	30 N.W. 1st St., Chisholm, Minn.
MILLER, William Peters	U. of Minnesota	MD 1954	Asbury Methodist Hospital, Minneapolis, Minn.
MORAN, Leo Joseph	U. of Minnesota	MD 1954	City & County Hospital, San Francisco, Calif.
NEISWANGER, Walter Erwin	Loyola U.	MD 1952	200 1st St., S.W., Rochester, Minn.
NELSON, Douglas Alan	U. of Minnesota	MD 1954	Philadelphia Gen. Hospital, Philadelphia, Pa.
NERENBERG, Sidney	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
NICHOLS, Francis Charles	Loyola U.	MD 1952	200 1st St., S.W., Rochester, Minn.
OTT, Eugene C.	U. of Minnesota	MD 1954	Detroit Receiving Hosp., Detroit, Mich.
PARDEE, Neely E.	U. of Minnesota	MD 1954	U.S.P.H.S. Hosp., San Francisco, Calif.
PARKER, Thomas Myles	U. of Minnesota	MD 1954	St. Mary's Hospital, Duluth, Minn.
PELZL, Charles R.	U. of Minnesota	MD 1954	St. Mary's Hospital, Duluth, Minn.
PETERSON, Edward Nohl	U. of Minnesota	MD 1954	Edward J. Meyer Memorial Hospital, Buffalo, N. Y.
PETTEE, Richard Addison	U. of Nebraska	MD 1951	Vets' Adm. Hospital, Minneapolis, Minn.
PHILLIPS, Leonard	Marquette U.	MD 1952	St. Joseph's Hospital, St. Paul, Minn.
PILGRIM, Robert Dwight	U. of Minnesota	MD 1954	Kaiser Foundation Hosp., Oakland, Calif.
RABCEVICH, Anatole	U. of Minnesota	MD 1953	Ancker Hospital, St. Paul, Minn.
RADKE, Robert Lyle	U. of Minnesota	MD 1954	Asbury Meth. Hosp., Minneapolis, Minn.
REARDON, Andrew Eugene	U. of Minnesota	MD 1954	St. Joseph's Hospital, St. Paul, Minn.
REIN, Burton Irwin	U. of Minnesota	MD 1954	Dist. of Columbia Gen. Hosp., Washington, D. C.
ROBBINS, Mason C.	U. of Minnesota	MD 1954	Vets' Adm. Hosp., Long Beach, Calif.
ROCK, William Henry	U. of Minnesota	MD 1954	816 Greenwich Rd., Minneapolis, Minn.
ROOT, Harlan David	Cornell U.	MD 1953	U. of Minn. Hosp., Minneapolis, Minn.
SADOFF, Leonard	U. of Minnesota	MD 1954	Santa Clara Co. Hosp., San Jose, Calif.
SALOUM, Lucille Mary	U. of Minnesota	MD 1954	Oakland Naval Hosp., Oakland, Calif.
SAVARD, Marc	U. of Montreal	MD 1952	200 1st St., S.W., Rochester, Minn.
SAWARYNJUK, Iwan	Goethe U. at Frankfurt, Germany	MD 1951	Diessner Bldg., Waconia, Minn.

SCHABACKER, Charles Walker	U. of Minnesota	MD 1954	Fitzsimons Army Gen. Hosp., Denver, Colo.
SCHLICHTING, James Robert	U. of Minnesota	MD 1954	Ancker Hospital, St. Paul, Minn.
SCHMITZ, Robert Eugene	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
SCHOENING, Herbert Alan	U. of Minnesota	MD 1954	San Francisco City & County Hosp., San Francisco, Calif.
SCHOON, Doris Vivien	U. of Minnesota	MD 1954	402 N. Kniss, Luverne, Minn.
SCHULTZ, Russell Thomas	U. of Minnesota	MD 1953	5212 Glengarry Pkwy., Minneapolis, Minn.
SELBY, John Bayne	U. of Tennessee	MD 1946	200 1st St., S.W., Rochester, Minn.
SENDERS, Wilbur Lester	U. of Oregon	MD 1950	200 1st St., S.W., Rochester, Minn.
SERBER, Lawrence	U. of Minnesota	MD 1954	Vets' Adm. Hosp., Long Beach, Calif.
SETHRE, Arthur E.	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
SINYKIN, Gerald Bernard	U. of Minnesota	MD 1954	Vets' Adm. Hosp., Long Beach, Calif.
SMITH, Duane Samuel	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
STANLEY, Charles Otis	U. of Illinois	MD 1950	200 1st St., S.W., Rochester, Minn.
STEIN, William Arthur	U. of Iowa	MD 1953	So. 1st Av. E. & Harvey, Ely, Minn.
STENZEL, David Milton	U. of Minnesota	MD 1954	U. S. Naval Hospital, Bethesda, Md.
STUDENT, Richard Edward	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
SWEDLUND, Harry Arvid	U. of Minnesota	MD 1954	U.S.P.H.S. Hosp., San Francisco, Calif.
THURBER, Deloran Leigh	U. of Minnesota	MD 1954	Denver Gen. Hospital, Denver Colo.
TRAUTMANN, James Curtis	U. of Minnesota	MD 1954	St. Luke's Hospital, Duluth, Minn.
VIBERT, James Charles	Dalhousie U.	MD 1951	200 1st St., S.W., Rochester, Minn.
WARWICK, Warren James	U. of Minnesota	MD 1954	White Cross Hospital, Columbus, Ohio
WEEKS, Richard Elvin	Northwestern U.	MD 1949	200 1st St., S.W., Rochester, Minn.
WETHERBY, Jr., Macnider	U. of Minnesota	MD 1954	Vets' Adm. Hosp., Long Beach, Calif.
WETTELAND, Thomas Franklin	Northwestern U.	MD 1953	Midway Hospital, St. Paul, Minn.
WHITACRE, II, John Clifford	U. of Minnesota	MD 1954	926 Summit Ave., St. Paul, Minn.
WILSON, Robert Edward	U. of Minnesota	MD 1954	930 E. 2nd St., Duluth, Minn.
WOHLRABE, Robert G.	U. of Minnesota	MD 1954	6528 Logan Ave. S., Minneapolis, Minn.
WOODLEY, Donald William	U. of Minnesota	MD 1954	Mpls. Gen. Hospital, Minneapolis, Minn.
YUMIBE, Toshio	U. of Minnesota	MD 1954	Santa Clara Co. Hosp., San Jose, Calif.

Reciprocity Candidates

Name	*School*		*Address*
CAMP, Ray Junior	U. of Nebraska	MD 1944	Madison Clinic, Madison, Minn.
CLAPP, Hubert Dickason	Western Reserve U.	MD 1939	220 S. Broadway, Crookston, Minn.
COMPTON, Russell Frederick	U. of Illinois	MD 1951	200 1st St., S.W., Rochester, Minn.
GROSCHUPF, Richard Paul	Creighton U.	MD 1953	6th & Beltrami, Bemidji, Minn.
HENDERSON, Robert Earl	U. of Pennsylvania	MD 1952	200 1st St., S.W., Rochester, Minn.
HIMEBAUGH, Gilbert Joseph	Indiana U.	MD 1942	200 1st St., S.W., Rochester, Minn.
HULT, John Edward	Washington U.	MD 1949	903 Cloquet Ave., Cloquet, Minn.
JOHNSON, J. W.	Johns Hopkins U.	MD 1948	200 1st St., S.W., Rochester, Minn.
LANDIS, Charles Walter	Indiana U.	MD 1951	Central State Hosp., Indianapolis, Ind.
MANN, George Adam	Marquette U.	MD 1949	214 Wesley Temple Bldg., Minneapolis, Minn.
McCLELLAN, Robert James	U. of Pittsburgh	MD 1947	Ancker Hospital, St. Paul, Minn.
McKAY, John Warren	U. of Kansas	MD 1950	200 1st St., S.W., Rochester, Minn.
McKAY, Kenneth Hubert	State U. of Iowa	MD 1952	200 1st St., S.W., Rochester, Minn.
McNEIL, Elbert Daniel	U. of Colorado	MD 1948	200 1st St., S.W., Rochester, Minn.
NICHOLS, Raymond Dane	Ohio State U.	MD 1953	Main St., Crosby, Minn.
ONIFER, Theodore Michael	Temple U.	MD 1948	200 1st St., S.W., Rochester, Minn.
OSBORNE, John Edward	U. of Virginia	MD 1952	R.R. No. 1, Box 252-A, Miamisburg, Ohio
PAYNE, William Spencer	Washington U., Mo.	MD 1950	1515 Lafayette, St. Louis, Mo.
PETERSEN, Robert William	U. of Colorado	MD 1949	200 1st St., S.W., Rochester, Minn.
PHALEN, Patrick Thomas	Creighton U.	MD 1952	200 1st St., S.W., Rochester, Minn.
SCIARRA, Paschal A.	U. of Cincinnati	MD 1951	200 1st St., S.W., Rochester, Minn.
WILCOX, III, Charles Frederick	Temple U.	MD 1952	200 1st St., S.W., Rochester, Minn.
YARBRO, Harold Ray	U. of Virginia	MD 1949	200 1st St., S.W., Rochester, Minn.

National Board Candidates

Name	*School*		*Address*
BEJIAN, Henry Leonard	Albany Med. Col.	MD 1940	600 McClellan St., Schenectady, N. Y.
BOYEA, Lyle Henry	Syracuse U.	MD 1949	Babbitt, Minn.
HINKLEY, William Corriden	U. of Minnesota	MD 1952	Veterans' Adm. Hospital, Minneapolis, Minn.
IRELAND, Gerald William	U. of Minnesota	MD 1953	Itasca Clinic, Nashwauk, Minn.
JOHNSON, William Joseph	Yale U.	MD 1952	200 1st St., S. W., Rochester, Minn.
LESTER, Richard Garrison	Columbia U.	MD 1948	Heart Hospital, U. of Minnesota, Minneapolis, Minn.

MASSARELLI, JR., John Joseph	Georgetown U.	MD 1950	200 1st St., S.W., Rochester, Minn.
MURPHY, Thomas Ogden	Johns Hopkins U.	MD 1949	U. of Minn. Hosp., Minneapolis, Minn.
PARIS-ROCA, Jaime	Syracuse Med. Col.	MD 1948	200 1st St., S.W., Rochester, Minn.
SIMPSON, Silvan Aaron	U. of Buffalo	MD 1952	Veterans' Adm. Hospital, Minneapolis, Minn.

PHYSICIANS LICENSED NOVEMBER 12, 1954

October, 1954, Examination

Name	*School*		*Address*
ABULLARADE, Jose Antonio	U. El Salvador San Salvador, C. A.	MD 1950	Cokato Hospital, Cokato, Minn.
ADAMS, Hilde Helene Annemarie Margarete	U. of Hamburg, Germany	MD 1943	1408 Mayo Memorial Bldg., U. of Minn., Minneapolis, Minn.
ADKINS, James Thomas	U. of Minnesota	MD 1954	St. Joseph's Hospital, St. Paul, Minn.
ARONSON, Jason Allen	U. of Minnesota	MD 1953	610 E. 15th St., Minneapolis, Minn.
BARNES, William Henry	Queen's U.	MD 1951	200 1st St., S.W., Rochester, Minn.
BEVIS, William David	Yale U.	MD 1949	U. of Minn. Hosp., Minneapolis, Minn.
BIRD, Bruce Lyn	U. of Toronto	MD 1952	200 1st St., S.W., Rochester, Minn.
BULKLEY, Andrew Derick	Cornell U.	MD 1951	645 J. St., Medford, Ore.
CARLSON, Curtis Harvey	U. of Minnesota	MD 1953	6508 Newton Ave. S., Minneapolis, Minn.
FALLS, John Laurance	U. of Illinois	MD 1947	628 W. 3rd St., Red Wing, Minn.
GREGG, Robert Harry	U. of Iowa	MD 1947	4334 N. 56th St., Omaha, Nebr.
HALIBURTON, Robert Alexander	U. of Toronto	MD 1951	200 1st St., S.W., Rochester, Minn.
HAMMERSTROM, Robert Norman	U. of Utah	MD 1948	U. of Minn. Hosp., Minneapolis, Minn.
HAYWA, Eugene William	U. of Minnesota	MD 1953	421 2nd Ave. S.E., Minneapolis, Minn.
HILDING, David Anderson	U. of Minnesota	MD 1954	St. Joseph's Hospital, St. Paul, Minn.
HUNT, James Calvin	Bowman-Gray	MD 1953	200 1st St., S.W., Rochester, Minn.
MACKINNON, Margaret	McGill U.	MD 1953	200 1st St., S.W., Rochester, Minn.
McELLISTREM, Gerald Dominic	Creighton U.	MD 1954	St. Joseph's Hospital, St. Paul, Minn.
MESSICK, Richard Taylor	Ohio State U.	MD 1953	200 1st St., S.W., Rochester, Minn.
MOERTEL, Charles George	U. of Illinois	MD 1953	200 1st St., S.W., Rochester, Minn.
MYDLAND, Wallace Elton	U. of Alberta	MD 1952	200 1st St., S.W., Rochester, Minn.
NAGOBADS, Visvaldis	U. of Tubingen, Germany	MD 1950	Swedish Hospital, Minneapolis, Minn.
NISSWANDT, Albert Louis	U. of Minnesota	MD 1953	Hastings State Hospital, Hastings, Minn.
OLSON, Philip Arthur	U. of Illinois	MD 1947	Medical Arts Bldg., Minneapolis, Minn.
QUIE, Paul Gerhardt	Yale U.	MD 1953	Minneapolis Gen. Hospitals, Minneapolis, Minn.
RICHTER, Paul Hartwell	U. of Nebraska	MD 1954	Minneapolis Gen. Hospitals, Minneapolis, Minn.
SNYDER, Carol Therese	Western Reserve U.	MD 1952	833 Goodrich Ave., St. Paul, Minn.
SPENCER, Robert J.	Loyola U.	MD 1953	200 1st St., S.W., Rochester, Minn.
STURTZ, SR., George Stephen	Georgetown U.	MD 1953	200 1st St., S.W., Rochester, Minn.
TOWNSEND, James Dayton	U. of Michigan	MD 1952	Veterans' Adm. Hospital, Minneapolis, Minn.
WOODINGTON, George Fraser	U. of Wisconsin	MD 1953	200 1st St., S.W., Rochester, Minn.

Reciprocity Candidates

Name	*School*		*Address*
BARIDON, JR., David	Northwestern U.	MD 1953	200 1st St., S.W., Rochester, Minn.
BOGLE, Warren Cyrus	State U. of Iowa	MD 1944	U. of Minn. Hosp., Minneapolis, Minn.
BURNETT, Lonnie Sheldon	U. of Texas	MD 1953	200 1st St., S.W., Rochester, Minn.
DINES, David Eaton	U. of Colorado	MD 1953	200 1st St., S.W., Rochester, Minn.
ELLENZ, George B.	Loyola U.	MD 1951	Chas. T. Miller Hospital, St. Paul, Minn.
EWEN, Edgar Francis	Loyola U.	MD 1944	200 1st St., S.W., Rochester, Minn.
GIBSON, Smith Hyson	U. of Louisville	MD 1950	200 1st St., S.W., Rochester, Minn.
GUIDRY, Leslie David	Louisiana State U.	MD 1953	200 1st St., S.W., Rochester, Minn.
HARLAN, William Lee	Indiana U.	MD 1947	200 1st St., S.W., Rochester, Minn.
HAYLETT, Clarice Helm	Stanford U.	MD 1949	200 1st St., S.W., Rochester, Minn.
HICKS, Shelby Leon	U. of Arkansas	MD 1951	200 1st St., S.W., Rochester, Minn.
JEFFERIES, William Ladson	U. of Arkansas	MD 1945	3981 Zartlan Ave., St. Louis Park, Minneapolis, Minn.
McCLEARY, Jack Eugene	Stanford U.	MD 1951	200 1st St., S.W., Rochester, Minn.
PHIFER, Robert Louis	Harvard U.	MD 1944	200 1st St., S.W., Rochester, Minn.
SMOLLEN, William James	U. of Wisconsin	MD 1953	200 1st St., S.W., Rochester, Minn.
SPERL, JR., Michael Paul	U. of Minnesota	MD 1951	200 1st St., S.W., Rochester, Minn.
STEVENS, Robert Graham	Jefferson Med. Col.	MD 1946	200 1st St., S.W., Rochester, Minn.
TEETER, Richard Roop	U. of Pennsylvania	MD 1947	U. of Minn. Hosp., Minneapolis, Minn.
TUCKER, Robert L.	Indiana U.	MD 1944	200 1st St., S.W., Rochester, Minn.

TURNER, Charles Robert	U. of Arkansas	MD 1950	609 Medical Arts Bldg., Minneapolis, Minn.
WALL, Wendell Hardy	Col. Med. Evang.	MD 1953	116 6th St. N., Wahpeton, No. Dak.
WILSON, Paul Frederick	U. of Oregon	MD 1947	200 1st St., S.W., Rochester, Minn.
WINGE, Herbert Clayton	Northwestern U.	MD 1952	310 Dakota Ave., Wahpeton, No. Dak.

National Board Candidates

Name	*School*		*Address*
ALDEN, Charles W.	Geo. Washington U.	MD 1944	Box 70, Kimball, Minn.
BARTHOLOMEW, Lee Enderlin	Columbia U.	MD 1950	200 1st St., S.W., Rochester, Minn.
BERMAN, Herbert L.	U. of Buffalo	MD 1950	200 1st St., S.W., Rochester, Minn.
BURROUGHS, John Townsend	Harvard U.	MD 1950	200 1st St., S.W., Rochester, Minn.
CAVA, Edward Ennio	U. of Louisville	MD 1947	U. S. Army Hospital, Dugway, Utah
COLMAN, Edward Leonard	Harvard U.	MD 1950	Veterans' Adm. Hospital, Minneapolis, Minn.
FURLOW, William Loomis	Geo. Washington U.	MD 1953	108 Central, Faribault, Minn.
GALL, JR., John Christian	Geo. Washington U.	MD 1953	200 1st St., S.W., Rochester, Minn.
GLEW, William Bainbridge	Geo. Washington U.	MD 1953	200 1st St., S.W., Rochester, Minn.
HARRISON, JR., Edgar George	St. Louis U.	MD 1952	200 1st St., S.W., Rochester, Minn.
HILL, Richard Woolsey	Jefferson Med. Col.	MD 1953	200 1st St., S.W., Rochester, Minn.
HUSTEAD, Arthur Procter	Yale U.	MD 1952	200 1st St., S.W., Rochester, Minn.
MARGULIS, Alexander Rafailo	Harvard U.	MD 1950	U. of Minn. Hosp., Minneapolis, Minn.
McKENNA, John Joseph	Tufts Col. Med. Sch.	MD 1944	401 1st Ave. S., Virginia, Minn.
MILLER, Fletcher Allen	U. of Iowa	MD 1946	U. of Minn. Hosp., Minneapolis, Minn.
PASCUZZI, Chris Anthony	Creighton U.	MD 1950	200 1st St., S.W., Rochester, Minn.
PLUM, George Elwood	Harvard U.	MD 1951	200 1st St., S.W., Rochester, Minn.
RANDALL, David Addison	U. of Minnesota	MD 1953	200 1st St., S.W., Rochester, Minn.
SABIN, Frederick Chapman	Albany Med. Col.	MD 1953	200 1st St., S.W., Rochester, Minn.
SPRING, John Denison	McGill U.	MD 1930	135 Main St., Nashua, N. H.
STEIN, Harold Aaron	U. of Toronto	MD 1953	200 1st St., S.W., Rochester, Minn.
TORKELSON, Lorraine Jeanette	Woman's Med. Col., Pa.	MD 1951	Wesley Memorial Hospital, Chicago, Ill.
TROEN, Philip	Harvard U.	MD 1948	200 1st St., S.W., Rochester, Minn.
WAKAI, Coolidge Shiro	U. of Buffalo	MD 1953	200 1st St., S.W., Rochester, Minn.
WEINER, Alan David	Boston U.	MD 1952	200 1st St., S.W., Rochester, Minn.
WINTER, JR., Malcolm D.	Northwestern U.	MD 1953	200 1st St., S.W., Rochester, Minn.
WORMER, Duncan Conrad	U. of Pennsylvania	MD 1950	200 1st St., S.W., Rochester, Minn.

CHOLANGIOGRAPHY

(Continued from Page 234)

Conclusions

A method of cholangiography has been described which seems to fulfill the requirements for a rapid, simply performed procedure. It is placed at the stage of the operation which allows progress with minimal delay. In seventy-five cases studied, the x-ray pictures resulted in as good exposures as by any other technique heretofore employed for the introduction of dye into the common duct. It can be employed in acute cases in which any of the techniques previously described probably could not be used.

References

1. Behrend, A., and Greenspan, B.: The value of operative cholangiography. Postgrad. Med., 14:514-518, 1953.
2. Best, R. R.: Cholangiography. Internat. Abst. of Surg., 126-131, 1938.
3. Bettmen et al: Operative cholangiography. Surgery, 13:131, 1943.
4. Carter, R. F., and Gillette, L.: Immediate cholangiography. J.A.M.A., 143:951-954, 1950.
5. Caylor, H. D.: Immediate cholangiography in surgery. Minnesota Med., 36:761-762, 1953.
6. Hagan, H., and Townsend, H. L.: The clinical evaluation of cholangiograms. Ann. Surg., 127:810-815, 1948.
7. Hicken, N. F. et al: The technique of operative cholangiography. Am. J. Surg., 78:347-355, 1940.
8. Loundsbury, B. F. et al: Operating room cholangiography. Quart. Bull., Northwestern Univ. M. School, 24:169-171, 1950.
9. Mehn, W. H.: Operating room cholangiography. Surg. Clin. North America, 34:151-158, 1954.
10. Mirizzi, P. L.: Operative cholangiography. Surg., Gynec. & Obst., 65:702-710, 1937.
11. Robins, S. A., and Hermanson, L.: Cholangiography. Surg., Gynec. & Obst., 63:684-688, 1936.

Minnesota Academy of Medicine

Meeting of April 14, 1954

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town and Country Club on Wednesday evening, April 14, 1954. Dinner was served at 7 o'clock and the meeting was called to order by the President, Dr. E. A. Regnier, at 8:30 p.m.

There were fifty-one members and two guests present.

Minutes of the March meeting were not read because of the length of this evening's program.

Upon ballot, the following men were elected as candidates for membership in the Academy:

Harold E. Miller.....Minneapolis
J. P. Medelman.....Saint Paul
Bernard G. Lannin.....Saint Paul

The following were elected as officers for the coming year:

Charles N. Hensel.....President
Frederick H. K. Schaaf.....Vice President
Robert E. Priest....Secretary-Treasurer (re-elected)

Dr. Priest read the Secretary's annual report and also the Treasurer's annual report; both were accepted.

The scientific program followed:

Dr. Ben Sommers, Saint Paul, read his inaugural thesis entitled "Problems of the Clinical Diagnosis and Classification of Ventricular Hypertrophy." Lantern slides were shown, and cases were reported.

Discussion

Dr. Joseph Borg, Saint Paul: I think we are very fortunate in having this subject brought to us, as it should be occasionally. It is very humbling to have cases brought to our attention, as errors in diagnosis are so frequent. We can learn much from an exchange of experiences in these patients, and I should like to mention at this time two interesting cases.

One was a girl, aged sixteen, who had hypertrophy of the left ventricle and who was seen first in the early stage of myocardial failure. In spite of the fact that this was her first decompensation, she failed to respond to all measures available and gradually pursued a downhill course to death in about three months. At autopsy a marked hypoplasia with narrowing of the entire aorta, associated with cardiac hypertrophy and chronic passive congestion, was the only finding.

The other patient was a boy, aged fifteen, who had relatively minor complaints, especially nausea, vomiting, and abdominal distress, with a markedly enlarged heart and left bundle branch block. He died this morning [April 14, 1954]. He had a loud, rough systolic murmur, transmitted over the entire chest, heard best at the left sternal border and thought to be probably due to an interventricular septal defect. Cardiac catheterization, however, showed no abnormality. At autopsy, the heart showed general enlargement, weight 1000 grams. No valve defect or congenital abnormality was found. The myocardium showed large areas of fibrosis, the significance of which is as yet undetermined.

These cases illustrate difficulty presented in diagnosis. Many cases of ventricular hypertrophy are probably due to previously existing hypertension, but obviously there is no reason for arriving at such a conclusion simply because no other reason for enlargement is found.

Dr. T. A. Peppard, Minneapolis: I have been delighted to hear Dr. Sommers' splendid presentation. We all see occasional cases with cardiac enlargement, which go on to failure and death, in which the autopsy does not explain the cardiac hypertrophy; these are then termed idiopathic. I am interested in the familial type, of which Dr. Sommers speaks, because I was early conditioned to consideration of the constitution in relation to internal diseases. I should like to ask Dr. Sommers whether he believes that relative coronary insufficiency might act as a possible cause of the hypertrophy.

Dr. Moses Barron, Minneapolis: I want to compliment Dr. Sommers for his very interesting presentation of a series of cases on idiopathic cardiac enlargement. The mechanism of cardiac enlargement in hypertension is not entirely clear, unless there be some relation between the extra strain in hypertension to the muscular strength. We think we can tell whether the heart muscle is normal by examining it microscopically. However, it is conceivable that the heart muscle may appear normal histologically while at the same time it is weak physiologically; an inherently weak heart muscle may enlarge under normal blood pressure just as a normal heart muscle may enlarge with increased blood pressure. The fibrosis and pathological changes which we wrongly call myocarditis may result when the weak muscles have to work even against normal pressure.

Dr. Sommers, in closing: I am very grateful to the doctors for their discussion. In regard to Doctor Peppard's question concerning the possibility of coronary insufficiency to account for left ventricular hypertrophy, I can only say that the heart muscle in the two cases I presented was searched diligently for subendocardial fibrosis, which should be present if coronary insufficiency had developed. No fibrosis was present.

Dr. Barron brought up the interesting question of possible constitutional inability to withstand so-called normal blood pressures in etiology of left ventricular hypertrophy. This is a possibility which is difficult to rule out. Dr. Ben Clawson also feels that this factor may be responsible for some of the 5 per cent of Dr. Clawson's large series of left ventricular hypertrophies which had no clinical hypertension.

I should like to make one further remark concerning this paper. It would be quite unfair to Dr. Ikeda if I did not point out the fact that the pulmonary artery involvement in Case 3 was in reality quite inconspicuous and was not well brought out until special elastic tissue stains were made. Even then, only a relatively few areas were involved.

Dr. Ylvisaker, of Minneapolis, read his inaugural thesis, "Biopsy Studies of the Gastric Mucosa." Lantern slides were shown.

BIOPSY STUDIES OF THE GASTRIC MUCOSA

R. S. YLVISAKER, M.D.

Minneapolis, Minnesota

In 1945, we presented before the Medical Staff of the University of Minnesota Hospitals,[25] a review of the subject of chronic gastritis. At that time, we could find histologic data on only six cases of atrophic gastritis among the many hundreds of gastroscopic examinations which had been done previouly in the gastroscopy clinic. In other words, virtually all of the diagnoses of the various types of gastritis were based on gross decriptions of the gastric mucosa as seen through the gastroscope. We cited at that time the crying need for more histopathologic information to serve as an important foundation for these diagnoses.

Along with most gastroscopists, we have used Schindler's classification of the gastritide as a convenient outline of the gross appearance of the various forms of gastritis. This classification with descriptions was completely detailed in Schindler's original monograph "Gastroscopy."[20] This treatise, together with his later monumental work "Gastritis,"[21] has served as a tremendous impetus to the further study of gastritis as well as other conditions affecting the gastric mucosa.

Schindler, himself, has seen the need for more histologic data and has devised a method of obtaining full thickness biopsies of the gastric wall at laparotomy.[21] Unfortunately, this method does not lend itself to any large scale study of the gastric mucosa.

Hebbel[7,8,9] has continued his studies and has further clarified knowledge as to the detailed histologic appearance of gastritis as well as its incidence and its topographical distribution in otherwise normal stomachs, those with gastric and duodenal ulcer and those with gastric carcinoma. He questions the validity of the objections of Schindler, Necheles and Gold[22] to the use of surgically resected specimens for the study of gastritis.

On the clinical side, questions are being raised by many, notably W. L. Palmer and his group,[19] as to the significance of the gastritides in the production of symptoms. One senses this questioning in the, at times, rather lengthy philosophical dissertations on this subject in Schindler's monograph on gastritis.[21] In our opinion, this does not measurably detract from the wealth of factual data presented. Nevertheless, this healthy doubting has further pointed up the need for more correlation between the histologic and the gross appearance of the gastric mucosa.

Although the appearance of Benedict's operating gastroscope in 1948[1] was greeted with a good deal of caution by those interested in this field, it has gradually assumed an important position in the study of both diffuse lesions of the stomach such as gastritis and the diffusely infiltrating neoplasms, and the more localized lesions such as ulcer and circumscribed tumors. In 1950, Benedict[2] reported on the first sixty-three specimens which had been taken for biopsies without accident with his instrument. He called attention to the value of these biopsies in the differential diagnosis of gastritis and tumor and in the diagnosis and study of gastritis. This report was soon followed by that of Shallenberger, DeWan, Weed, and Reganis.[23] They report their experiences in sixty cases including cases of gastritis, gastric ulcer, malignancy, gastric polypi and marginal ulcer, detailing not only the advantages, but also the difficulties and limitations they had encountered. They concluded, among other things, that the instrument is valuable and safe for general use and that indication for gastroscopy is indication for biopsy. In 1951, Benedict[3] reported further on his experience and included 203 biopsies thus far taken without accident. He did not report on his over-all experience with these cases, but detailed ten illustrative cases, in five of which positive diagnosis of carcinoma was established by biopsy and in five others diffuse gastric malignancy was excluded with reasonable certainty by gastroscopic examination and biopsy. He reported on the value of a positive biopsy finding but warned against the acceptance of a negative report especially in focal lesions. In 1953, Selesnick and Kinsella[24] reported their study of fifty-six gastroscopic examinations with mucosal biopsies in fifty patients in which only gastric mucosae that were interpreted as appearing normal or manifesting some form of gastritis were reviewed. They reported 91 per cent agreement with the pathologist in thirty-three cases showing gross evidence of gastritis, but only 60 per cent agreement where the gross diagnosis was that of a normal mucosa. In other words, the greatest disparity existed where the gastroscopist called the mucosa normal, overlooking pathology in 40 per cent of the cases. They also called attention to the fact that where a gross diagnosis of chronic hypertrophic gastritis was made, the pathologist usually found a normal mucosa.

In 1949, Doig[4] reported his use of a new flexible gastric biopsy tube devised by him. With this instrument a fragment of mucosa is drawn into a side opening in a flexible tube by suction and then cut off by a sharp blade. He found this method of value chiefly in the study of diffuse lesions such as gastritis, its main disadvantage being that it is a blind biopsy and usually reaches only one area—the greater curvature of the lower pars media. By 1952, Doig and Wood[5,6] had studied 112 cases of gastritis diagnosed by this method and compared them with groups of cases of duodenal and gastric ulcer. They found that the age of onset of both superficial and atrophic gastritis compared with that of gastric ulcer, but that the age of reporting was later for atrophic gastritis. They studied the symptomatology and course of gastritis extensively and concluded that this disease is a definite clinical and pathological entity, showing a recognizable, though variable and usually mild clinical picture. They also studied cases of subacute

combined degeneration of the spinal cord and pernicious anemia and concluded that many cases without the characteristic blood picture could be diagnosed by finding true gastric atrophy on gastric biopsy.

In the United States, the method of Doig and Wood has been used extensively by Eddie Palmer.[10-18] In his clinic, the use of the suction biopsy is followed by gastroscopic examination so that he is able to see the area biopsied and study its gross appearance. In this way, he early obtained a remarkable correlation of gastroscopic and histologic findings, but some of his later reports admit to more frequent disagreement. He has studied the gastric mucosa in normal subjects, patients with duodenal ulcer, virus hepatitis, staphylococcus gastroenteritis, atrophic gastritis, postoperative gastritis, sarcoid disease, and chronic superficial gastritis. Apparently, one advantage of the suction biopsy over the biopsy taken with the Benedict operating gastroscope is that the fragment of tissue obtained is thicker and includes the muscularis mucosae and some submucosa.

The present report deals with the total gastroscopic biopsy experience in the gastroscopy clinic in the University of Minnesota Hospitals. The Benedict operating gastroscope has been used. This has been a co-operative undertaking. The gastroscopic examination and the taking of biopsies has been carried out by four different men, all well grounded in this procedure. I am indebted to Dr. J. B. Carey, Sr., Dr. James Myhre and Dr. J. B. Carey, Jr., for their part in this program. To some, this division of responsibility would appear to be a disadvantage. To us, it has been an advantage in that it affords a better over-all picture of the gross gastroscopic interpretation. Furthermore, in the few cases where more than one of the four persons has examined the same patient at different times, the agreement in interpretation has been remarkable. The histopathological studies were made by Dr. Robert Hebbel of the Department of Pathology of the University of Minnesota, who has had a large experience in the microscopic study of the gastric mucosa.[7,8,9] We feel that we have been fortunate in having Dr. Hebbel's co-operation and advice in this work.

A few words of explanation in regard to the instrument used might be pertinent. Its value in affording an opportunity to obtain biopsies of the gastric mucosa under direct vision is obvious. Certain disadvantages should be mentioned. In the first place, the instrument is definitely more cumbersome for the operator to handle and for the patient to tolerate than the Schindler instrument. This disadvantage can be overcome by being more deliberate with the examination. In the second place, it seems that the objective lens becomes more easily smudged and is less effectively "wiped off" on the posterior wall of the stomach, necessitating occasionally the removal of the instrument for cleaning and reintroduction, a procedure which in our opinion should be avoided. In the third place, it has been difficult at times to direct the biopsy forceps to the area of involvement. In a more or less diffuse lesion such as gastritis, this difficulty has not become too important. However, we have not been successful in obtaining biopsies from the antrum. On only one occasion did the biopsy specimen reveal antral mucosa, although the attempt to obtain specimens from the antrum has been made often. A few specimens showed the so-called transitional type of mucosa.

It is well to mention, too, that the specimens which we have obtained are often thin, including only parts of the mucosa without the muscularis mucosae. Then, too, it is not possible, even with several biopsies of the same stomach (we have made up to four) to study the whole gastric mucosa. We are studying merely samplings of the mucosa. The fact that the samplings are taken under visual control helps overcome this difficulty and affords an opportunity to study at least the area visualized.

Most of the examinations detailed in this report have been made during the past year, a few prior to that time. Although the series includes some focal lesions other than gastritis, it has been the distinct purpose of each investigation to study the gastric mucosa in its entirety. This study can, therefore, properly be called a study of the gastric mucosa as related to the appearance and incidence of gastritis. Except in a few instances, the operating gastroscope was used routinely during the past ten months. Since the series is small, we wish to designate this a preliminary report.

Eighty-four patients were examined. On one occasion the gastroscopic examination was unsatisfactory; in eight others, the biopsies were unsatisfactory; leaving seventy-five cases with satisfactory gastroscopic examinations and biopsies. In a few other cases, the gastroscopic examination was incomplete in some details, but enough visualization of the mucosa was obtained to make the correlation with the histologic findings satisfactory. There were eleven other individual biopsies which were unsatisfactory, but in these cases multiple biopsies had been taken, leaving other satisfactory biopsies in each case. Two patients were examined twice with biopsies, making a total of seventy-seven satisfactory examinations in seventy-five cases. There were thirty examinations with one biopsy each. Forty-seven with two to four biopsies each. Altogether 141 satisfactory biopsies were taken.

Two complications should be reported. These were complications of the gastroscopic examination, not of the biopsy taking as such. One patient developed a mediastinitis with subcutaneous emphysema of the lower cervical region. This subsided on antibiotic therapy after a short febrile course. The other patient developed severe esophageal pain and dysphagia, sufficient to require hospitalization. Protective antbiotic therapy was given, and the symptoms subsided after a brief afebrile course. Both of these cases had required removal and re-introduction of the gastroscope.

Histologically, each sample was classified as showing normal mucosa, superficial gastritis, or atrophic gastritis. In order to be classified as normal, the sections were required to show intact glandular elements with a normal component of specific cells and little or no cellular infiltration in the stroma. Those with superficial gastritis showed excessive cellular infiltration in the

TABLE I. DISTRIBUTION OF GASTRITIS ACCORDING TO AGE AND GASTRIC CONTENTS IN WOMEN

Age	Total Cases	Cases with Free HCl				Cases with Achlorhydria				Cases with No Gastric Analysis			
		Normal	Gastritis			Normal	Gastritis			Normal	Gastritis		
			Superficial	Atrophic	Both*		Superficial	Atrophic	Both*		Superficial	Atrophic	Both*
20 to 29	1		1										
30 to 39	3	2	1										
40 to 49	4	2	1							1			
50 to 59	7	2	1					3		1			
60 to 69	5	1					1	1				1	
							1 adenocarcinoma						
70 to 79	3		1					2					
80 to 89	1							1					
Total		7	5	0	0	0	1	7	0	2	0	1	0
							1 adenocarcinoma						
Total	24	12				9				3			

*This signifies one type of gastritis in one sample and the other type in another sample from the same mucosa.

TABLE II. DISTRIBUTION OF GASTRITIS ACCORDING TO AGE AND GASTRIC CONTENTS IN MEN

Age	Total Cases	Cases with Free HCl				Cases with Achlorhydria				Cases with No Gastric Analysis			
		Normal	Gastritis			Normal	Gastritis			Normal	Gastritis		
			Superficial	Atrophic	Both*		Superficial	Atrophic	Both*		Superficial	Atrophic	Both*
20 to 29													
30 to 39	4	3			1								
40 to 49	9	4		1		1		1		2			
50 to 59	10	3	2	1				1		1		2	
60 to 69	21	9		4	1	1		5	1				
70 to 79	7	1		2		1		2	1				
80 to 89	2			1						1			
Total		20	2	9	2	3	0	9	2	4	0	2	0
Total	53	33				14				6			

*This signifies one type of gastritis in one sample and the other type in another sample from the same mucosa.

TABLE III. TOTALS FOR MEN AND WOMEN

Total Cases	Normal	Superficial Gastritis	Atrophic Gastritis	Both*	Adenocarcinoma
77 (100%)	36 (46.75%)	8 (10.39%)	28 (36.36%)	4 (5.20%)	1 (1.30%)

Total	Cases with Free HCl				Cases with Achlorhydria				Cases with No Gastric Analysis			
77 (100%)	45 (58.44%)				23 (29.87%)				9 (11.69%)			
	Normal	Gastritis			Normal	Gastritis			Normal	Gastritis		
		Superficial	Atrophic	Both*		Superficial	Atrophic	Both*		Superficial	Atrophic	Both*
	27 35.06%	7 9.09%	9 11.69%	2 2.60%	3 3.90%	1 1.30%	16 20.77%	2 2.60%	6 7.79%	0 0%	3 3.90%	0 0%
						1 adenocarcinoma						

*This signifies one type of gastritis in one sample and the other type in another sample from the same mucosa.

stroma but no change in the glandular elements including no significant loss of specific cells. We do not feel that any one case of superficial gastritis can be stated as being acute or chronic from its histologic appearance. Repeated biopsies over a period of time would be needed to determine this. Those with atrophic gastritis included any that showed loss or change in the glandular elements, i.e., loss of specific cells and/or total glandular substance, and/or metaplasia of the glandular elements. No attempt was made to distinguish between atrophic gastritis and gastric atrophy nor do we believe any clear-cut distinction exists.

Tables I, II and III show our over-all experience based on histologic diagnoses. No attempt at statistical analysis has been made because the series is small. Only certain obvious trends can be shown. Percentage figures are given for the larger totals. There were fifty-three men and twenty-four women. Grouped according to ages, there were four men from thirty to thirty-nine, nine from forty to forty-nine, ten from fifty to fifty-

TABLE IV.

Histology	Gastroscopy	No. Cases
Normal 36 cases	Normal	21
	Superficial gastritis	0
	Atrophic mucosa	1
	Hypertrophic mucosa	13
	Probable carcinoma	1

nine, twenty-one from sixty to sixty-nine, seven from seventy to seventy-nine, and two over eighty. Among the women, there was one between twenty and twenty-nine, three between thirty and thirty-nine, four between forty and forty-nine, seven between fifty and fifty-nine, five between sixty and sixty-nine, three between seventy and seventy-nine, and one over eighty.

Of the total group, forty-five had free HCl in their gastric secretion, twenty-three had achlorhydria, and nine had no gastric analysis performed. All the achlorhydrias were histamine achlorhydrias, many having repeated determinations. Histologically, thirty-six showed normal mucosae, eight superficial gastritis, twenty-eight atrophic gastritis, four superficial gastritis on one or more samples and atrophic gastritis on other samples from the same stomach and one had adenocarcinoma on a single biopsy from a tumor. The tables clearly demonstrate the usual preponderance of atrophic gastritis in the group with achlorhydria. Whereas, those with free HCl in their stomach contents showed twenty-seven normal mucosae on biopsy and only eleven with atrophic gastritis (including two with both superficial and atrophic), those with achlorhydria showed only three normals but eighteen atrophic gastritides. Seven out of eight of those with superficial gastritis had free HCl in their stomach contents. Only two out of the eight cases of superficial gastritis were men, whereas the latter accounted for twenty-four out of thirty-two cases with atrophic gastritis. None of the women with free HCl showed atrophic gastritis and none of the women with achlorhydria had normal mucosae. There was one case of proven pernicious anemia and one of subacute combined degeneration of the spinal cord with a normal blood picture. Both showed atrophic gastritis on gastric biopsy.

Grouped according to ages, fifty-six (72.7 per cent) of the seventy-seven patients were over fifty years of age. Of the thirty-two patients showing evidence of atrophic gastritis (including the four which showed both superficial and atrophic gastritis) only one was under forty years of age and three under fifty; or 90.6 per cent were over fifty years of age. Conversely, of the fifty-six persons in the series over fifty, 51.8 per cent had evidence of atrophic gastritis and 60.7 per cent had evidence of one type of gastritis or the other or both, while only 14.3 per cent of those under fifty showed atrophic gastritis and 28.6 per cent one type of gastritis or the other or both. This high incidence of atrophic gastritis in the older age group agrees with the findings of Hebbel[8] and others.

Correlation of gross gastroscopic findings with the histologic findings brought out some very interesting results. Table IV shows the gastroscopic appearance in thirty-six cases with normal histology.

TABLE V.

Histology	Gastroscopy	No. Cases
Superficial gastritis 8 cases	Normal	3
	Superficial gastritis	0
	Atrophic mucosa	1
	Hypertrophic mucosa	0
	Small raised area	1
	Edematous, hyperemic mucosa	2
	Increased high-lighting	1

TABLE VI.

Histology	Gastroscopy	No. Cases
Atrophic gastritis 28 cases	Normal	8
	Superficial gastritis	0
	Atrophic mucosa	14
	Hypertrophic mucosa	1
	Edematous mucosa with multiple, small, irregular ulcers	1
	Rim of gastric ulcer	1
	Postoperative gastritis	1
	Polypi with red mucosa	1
	Probable carcinoma	1

The cases with hypertrophic mucosae will be commented upon later. As it will be seen, these cases should probably henceforth be classified as normal mucosae. The case of probable carcinoma turned out actually to be carcinoma and was missed by biopsy. This case points up the warning of Benedict previously mentioned, that a negative biopsy in a focal lesion should not be accepted as a final diagnosis. The one case diagnosed as atrophic mucosa, then, becomes the only error in gastroscopic diagnosis in this group. If allowance is made for the possibility that the atrophic area might have been missed on biopsy (even though three areas were biopsied in this case) the correlation between gross gastroscopic and histologic findings in this group becomes remarkable.

Table V shows the gastroscopic appearance in eight cases diagnosed as superficial gastritis histologically.

It will be noted that no diagnoses of chronic superficial gastritis were made on gross appearance in this series. There were probably two reasons for this. In the first place, as time went on there was an agreed upon tendency among the four coöperating gastroscopists to describe what was seen rather than to make diagnoses. In the second place, none of the cases in this series showed the mucosal exudate or sticky mucus thought to be characteristic of chronic superficial gastritis. In this group, then, there were four mistaken diagnoses and four cases in which a raised, white area, the hyperemic edematous mucosa, and the increased high-lighting were not considered sufficient evidence by the gastroscopist to make a definite diagnosis, but proved to be the only surface indications of an underlying, superficial gastritis.

Table VI shows the gastroscopic appearance in twenty-eight cases of atrophic gastritis.

It will be noted that there were fourteen cases in which the gastroscopist definitely agreed with the histologic diagnosis, eight cases in which he definitely

TABLE VII.

Histology	Gastroscopy	No. Cases
Superficial and atrophic gastritis on separate samples	Hypertrophy anterior wall and greater curvature, atrophy posterior wall	1
	Pseudopolypi antral floor	1
	Atrophy anterior wall	1
	Slight atrophy	1

TABLE VIII.

Gastroscopy	Histology	No. Cases
Normal 26 cases	Normal	14
	Superficial gastritis	3
	Atrophic gastritis	9
	*Both	0
Atrophic mucosa 19 cases	Normal	1
	Superficial gastritis	2
	Atrophic gastritis	14
	*Both	2
Hypertrophic mucosa 12 cases	Normal	11
	Superficial gastritis	0
	Atrophic gastritis	1
	*Both	0

*This signifies one type of gastritis in one sample and the other type in another sample from the same mucosa.

If we reverse the situation and investigate the various histologic diagnoses when definite gastroscopic diagnoses had been made, equally interesting results are obtained. Table VIII tabulates these results. It will be noted that only those cases are tabulated in which a definite diagnosis was made gastroscopically.

Equivocal diagnoses or those with merely descriptive accounts without a definite gastroscopic diagnosis are not included. Here again, when a diagnosis of a normal mucosa was made gastroscopically, a considerable number of atrophic gastritides were overlooked; whereas, when a diagnosis of atrophic mucosa was made, a good correlation with atrophic gastritis histologically is seen. Again, the cases which were diagnosed as showing hypertrophic mucosa all proved to be normal histologically except one. It should be explained in this connection that the fragments of tissue obtained by this method of biopsy are often thin and the pathologist was unable to measure the full thickness of the mucosa in the great majority of cases. A true evaluation of the presence or degree of hypertrophy was, therefore, not possible. However, it can be stated that none of the sections in the cases designated as hypertrophic by the gastroscopist showed any of the other evidences of gastritis histologically, nor was there any visible piling up of the glandular elements. We shall have to agree with Selesnick and Kinsella,[24] therefore, that on the basis of our findings, cases with the usual evidences of hypertrophy gastroscopically should be called normal and that this finding should be considered a normal variation probably related chiefly to the functional state of the muscularis mucosae. It might appear that cases showing hypertrophy gastroscopically are more apt to be normal histologically than those that are normal gastroscopically.

TABLE IX. DISTRIBUTION OF GASTRITIS IN ULCER CASES

Type of Ulcer	Total	Type of Mucosa				
		Normal	Superficial Gastritis	Atrophic Gastritis	Normal & Gastritis	Mixed Gastritis
Duodenal	9	6	0	1	2	0
Gastric	8	2	0	4	2	0
Gastric and duodenal	2	2	0	0	0	0
Pyloric	5	3	0	1	1	0
Duodenal and Stomal	1	1	0	0	0	0
Stomal	1	1	0	0	0	0
Total	26	15	0	6	5	0

missed the diagnosis and called the mucosa normal, one case in which he called the mucosa hypertrophic (the only case of hypertrophic mucosa showing gastritis histologically), one case with multiple small, irregular ulcers—probably a true case of ulcerative gastritis, one case in which the biopsy was taken from the rim of a gastric ulcer, one case of postoperative gastritis, one case with benign polypi and a very red mucosa, and one case thought to be carcinoma by the gastroscopist. The rather large number of normals in this group tends to confirm the finding of Selesnick and Kinsella[24] and others that the greatest disparity between the gastroscopic appearance and histologic findings lies in the gastroscopist missing gastritis when it is definitely present in a fairly large number of cases.

The case thought to be carcinoma was one in which the patient had bone lesions interpreted as being metastases, but who died elsewhere without an autopsy being performed.

Table VII indicates the gastroscopic findings in four cases found to have both superficial and atrophic gastritis histologically on different samples by biopsy. It will be seen that various types of gastritis likewise were found gastroscopically.

Certain other features of this series should be mentioned. There were twenty-six cases of peptic ulcer: nine duodenal, eight gastric, two gastric and duodenal, five pyloric, one duodenal and stomal, and one stomal. The five pyloric ulcers included those which might be either just pre-pyloric or post-pyloric, most cases being difficult to determine roentgenologically.

Table IX shows the type of mucosa found histologically in the body of the stomach in the various types of ulcer.

The group is too small to make any comments but, in general, the findings agree with those of Hebbel[7] that

gastritis is common in the body mucosa in cases with gastric ulcer and unusual in cases with duodenal ulcer.

In regard to the distribution of the gastritis, in the case of atrophic gastritis we shall have to agree again with Hebbel[8] that the lesions show a wide range between focal and diffuse. The only exception, as he points out, lies in those cases in which the greater curvature is involved. When this is the case, according to him, the lesion is more apt to be diffuse. In our series, only seven cases, among those with multiple biopsies, were found which showed atrophic gastritis on the greater curvature. In all of these, atrophic gastritis was found in all other areas sampled. On the other hand, atrophic gastritis was found on the lesser curvature in nine cases, and in only five of these were all other areas similarly involved.

Table X indicates the types of symptoms complained of in the cases without ulcer, gallbladder disease, or cancer. Again, the series is too small to draw any conclusions. The only symptoms which seem to be more common in cases with gastritis than in the normals are pain after eating and flatulence. On the other hand, the asymptomatic cases fall almost entirely in the gastritis group. In other words, no definite symptom complex for gastritis is present.

TABLE X. SYMPTOMS IN CASES WITHOUT ULCER, GALLBLADDER DISEASE, OR CANCER

Symptoms	Normal	Gastritis
Pain after eating	3	7
Flatulence	1	4
Asymptomatic	1	8
Asymptomatic—(post-gastrectomy)	0	2
Vague epigastric distress	3	3
Abdominal pain other than epigastric	4	6
Nausea and/or vomiting	4	2
Typical ulcer distress	2	3
Weight loss	1	3
Nervousness	0	2
Spells of violent epigastric pain	1	0
Pyrosis	0	1
Weakness	2	1
Alternating constipation and diarrhea	0	1

Summary and Conclusions

This report has presented a review of the literature in regard to histologic findings by gastric biopsy in gastritis with special reference to its correlation with the gastroscopic appearance, and has detailed the total gastroscopic biopsy experience at the University of Minnesota. In the latter work, the operating gastroscope of Benedict was used. Some of its advantages and disadvantages as well as those of the type of biopsy obtained have been pointed out. Seventy-seven gastroscopic examinations with 141 biopsies were done.

Although the total number of cases is not sufficient to allow for any final conclusions, some very definite trends are brought out.

1. The well-known increased incidence of atrophic gastritis with age and in cases with achlorhydria is confirmed.

2. The correlation of gastroscopy with histology in cases which proved to be normal histologically is found to be excellent if cases showing hypertrophic mucosae gastroscopically are included with the gastroscopic normals. The finding of normal mucosae microscopically in those with hypertrophy gastroscopically agrees with the finding of Selesnick and Kinsella. We are inclined to agree with their suggestion that mucosal hypertrophy is due to a functional derangement of the muscularis mucosae and does not represent a true gastritis.

3. A definite disparity in the correlation of gastroscopy with histology in cases showing atrophic gastritis histologically is confirmed. In other words, no surface evidence of an underlying atrophic gastritis was found in a considerable number of cases. Conversely, when atrophic mucosa is seen gastroscopically, atrophic gastritis will be found histologically in a high percentage of cases.

4. Superficial gastritis shows a comparatively low incidence and a varied gastroscopic picture in this series. Surface exudate or sticky mucus does not appear to be an essential finding.

5. Hebbel's finding of the unusual occurrence of atrophic gastritis in the body mucosa in cases of duodenal ulcer as well as its common occurrence in cases with gastric ulcer is supported in this series.

6. Likewise, Hebbel's finding of a wide range indistribution of gastritis from focal to diffuse, and the definite tendency for it to be diffuse when the greater curvature is involved, finds support.

7. No characteristic symptom complex for gastritis is found.

Bibliography

1. Benedict, E. B.: An operating gastroscope. Gastroenterology, 2:281-283, 1948.
2. Benedict, E. B.: Value of gastric biopsy specimens obtained through flexible operating gastroscope. Arch. Path., 49:538-544, 1950.
3. Benedict, E. B.: Gastroscopic biopsy in the differential diagnosis of gastritis and carcinoma. New England J. Med., 245:203-206, 1951.
4. Doig, R. K.: Proc. R. Australian College of Physicians, 10:85, 1949.
5. Doig, R. K.: and Wood, I. J.: Gastritis: A study of 112 cases diagnosed by gastric biopsy. M. J. Australia, 1:593-600, 1952.
6. Doig, R. K., and Wood, I. J.: Gastric biopsy using a flexible gastric biopsy tube. Modern Trends in Gastroenterology. pp. 352-360. London: Butterworth & Co., Ltd., 1952.
7. Hebbel, R.: Chronic gastritis. Its relation to gastric and duodenal ulcer and to gastric carcinoma. Am. J. Path., 19:43-71, 1943.
8. Hebbel, R.: The topography of chronic gastritis in otherwise normal stomachs. Am. J. Path., 25: 125-141, 1949.
9. Hebbel, R.: The topography of chronic gastritis in cancer-bearing stomachs. J. National Cancer Inst., 10:505-522, 1949.
10. Palmer, E. D.: Gastric mucosal biopsy findings correlated with gastroscopic diagnoses: Preliminary report based on fifty patients. Am. J. Med. Sc., 219: 648-650, 1950.
11. Palmer, E. D.: On the morphologic state of the gastric mucosa in the duodenal ulcer patient. Gastroenterology, 13:8-20, 1951.

12. Palmer, E. D.: The influence of virus hepatitis on the morphology of the gastric mucosa. Am. J. Dig. Dis., 18:323-325, 1951.

13. Palmer, E. D.: The morphologic consequences of acute exogenous (staphylococcic) gastroenteritis on the gastric mucosa. Gastroenterology, 19:462-475, 1951.

14. Palmer, E. D.: Histology of the normal gastric mucosa: an investigation into the state of normalcy of the stomach of persons without upper gastrointestinal complaints. Gastroenterology, 21:12-23, 1952.

15. Palmer, E. D., and Smith, V. M.: Chronic atrophic gastritis: histopathologic study of gastric mucosa of patients with gastritis diagnosed by gastroscopy. Am. J. Clin. Path., 23:965-974, 1953.

16. Palmer, E. D.: Further observations on postoperative gastritis: histopathologic aspects, with a note on jejunitis. Gastroenterology, 25:405-415, 1953.

17. Scott, N. M., Smith, V. M., Cox, P. A., and Palmer, E. D.: Sarcoid and sarcoid-like granulomas of the stomach. A clinical evaluation. Arch. Int. Med., 92:741-749, 1953.

18. Palmer, E. D.: Chronic superficial gastritis; observations on clinical and histopathologic significance. Amer. J. Dig. Dis., 20:369-322, 1953.

19. Ricketts, W. E., Palmer, W. L., and Kirsner, J. B.: Chronic gastritis: A study of the relation between mucosal changes and symptoms. Gastroenterology, 12:391-393, 1949.

20. Schindler, R.: Gastroscopy. The endoscopic study of gastric pathology. Chicago: University of Chicago Press, 1937.

21. Schindler, R.: Gastritis. New York: Grune and Stratton, 1947.

22. Schindler, R., Necheles, H., and Gold, R. L.: Surgical gastritis: A study of the genesis of gastritis found in resected stomachs with particular reference to the so-called antral gastritis associated with ulcer. Surg., Gyn. & Obst., 69:281-286, 1939.

23. Shallenberger, D. L., De Wan, C. H., Weed, C. B., and Reganis, J. C.: Biopsy through the flexible operating gastroscope. Gastroenterology, 16:327-340, 1950.

24. Selesnick, S., and Kinsella, E. D.: Gastritis and gastroscopic biopsy. New England J. Med., 248: 842-844, 1953.

25. Ylvisaker, R. S.: Gastritis. Staff Meeting Bulletin, University of Minnesota Hospitals, 16:243-250, 1945.

Discussion

DR. JAMES B. CAREY, Minneapolis: I appreciate the opportunity of participation in this study with the Benedict biopsy gastroscope. When the flexible gastroscope was first introduced in this country by Benedict in Boston in 1934, then by Schindler in Chicago in 1935, and in this territory in 1936, the classification of gastritis suggested by Schindler was accepted, i.e., superficial gastritis, atrophic gastritis, hypertrophy gastritis, and gastritis of the postoperative stomach. This classification of Schindler's was not unequivocally substantiated by direct histologic evidence. It was based on objective gastroscopic appearance of the gastric mucosa. The only substantiation was by histopathologic studies of autopsy or surgical material from individuals different from those examined gastroscopically.

Two methods for obtaining biopsies from the mucosa of the stomach are now being used; one is with the flexible instrument in which a biopsy forceps is incorporated and by which the part of the stomach from which the specimen is obtained may be seen; the other method is that of Doig and Wood, of Australia, which is blind. A tube with an open end, a section device, and a cutting obturator is passed into the stomach. The specimen is usually of the greater curvature of the stomach opposite to the orifice of the esophagus. Later the part of the stomach from which the biopsy was taken may be identified through the diagnostic gastroscope. Obviously, two passages of instruments is required.

Before biopsies of the stomachs of living patients were possible, some of us were beginning to be a little skeptical about superficial and hypertrophic gastritis. The small number of patients presented by Dr. Ylvisaker stresses this doubt. The original concept, based on Faber's work, was that superficial gastritis might accompany several infectious diseases, and, if repeated, could be the basis for permanent atrophic gastritis. Faber's specimens were obtained after introducing formalin solution into the stomach as soon as possible after death in order to inhibit postmortem disintegration. These studies supported the gastroscopic diagnoses of superficial and atrophic gastritis. But interpretation of changes apparently indicative of hypertrophic gastritis has been uncertain. The latest work on this subject by Col. Eddy Palmer of Walter Reed Hospital does not support the concept of hypertrophic gastritis as described by gastroscopists as pavement mucosa, cobblestone, thick, and other terms. Palmer did say, however, that the gastroscopic appearances were truly seen, but that the clinical significance of such observations was dubious.

The other question is whether all changes called atrophic gastritis are actually gastritis, that is, inflammatory. Some of the changes may be nutritional or senile, related to degeneration of other parts of the body. Also, the gastric mucosa may differ from person to person, as do other body structures; for instance, the skin. In other words, what may appear to be atrophy or hypertrophy may actually be normal for the particular individual.

I believe that, from knowledge derived from biopsies of gastric mucosa, the orderly classification of Schindler must be modified. For instance, English and Australian workers have virtually abandoned the term hypertrophic gastritis.

DR. L. G. RIGLER, University of Minnesota: It is very difficult and possibly unwise to make a diagnosis of gastritis from x-ray examination of the stomach. I did see a case of true hypertrophic gastritis just this morning—a seventy-two-year-old doctor who came into the hospital with a very severe gastric hemorrhage. Dr. Varco did a subtotal resection of his stomach. He had very large folds; not only that, but the gastric glands penetrated well into the muscularis although there were no actual points of bleeding. Many of the cases with large folds are not gastritis, simply redundancies of the mucosa.

DR. YLVISAKER, in closing: I wish to thank Doctor Carey and Doctor Rigler for their discussions. We plan to carry on this study over a period of years with the hope especially of obtaining more information in regard to the development of gastritis. Doctor Hebbel tells me that he is interested in this phase of the study. In regard to the matter of hypertrophic mucosa, while we have not found any true hypertrophic gastritis in our series, we feel quite certain that there are cases of so-called giant rugae which should be classified as true hypertrophic gastritis. These are not at all common.

The meeting was adjourned.

ROBERT E. PRIEST, M.D., *Secretary*

Meeting of May 12, 1954

This meeting, at which the retiring President read his Address, was held at the Minneapolis Club on Wednesday evening, May 12, 1954. Dinner was served at 7 o'clock and the meeting was called to order by the President, Dr. Regnier, at 8:15 p.m.

There were fifty-two members and five guests present.

No business was transacted at this meeting, and minutes of the April meeting were not read.

RETIRING PRESIDENT'S REMARKS

DR. E. A. REGNIER: My fellow members of the Academy, you have done me a great honor in electing me your president in the past year. For this privilege, I assure you my sincere gratitude for your respect and confidence. It has been a pleasure to serve, and its reward, namely, your confidence, I shall always cherish. At this time I want to thank the members who have served with me on the various committees. The co-operation of the Executive Committee, the Membership Committee, the Program Committee was most gratifying. I want to commend particularly the Program Committee for furnishing the excellent programs which we have enjoyed throughout the past year. My sincere thanks to all of you, and particularly to our secretary, Dr. Robert Priest.

This Society is now completing its seventy-seventh year, and it has reached a stage of maturity, whereby it should occupy a position of great prestige in this community. Your present officers have served an added six months due to the change voted by the Academy last December. The presidential meetings are to be held alternately at the Minneapolis Club and the Minnesota Club.

To our new president, I extend greetings and best wishes for continued progress toward our objectives and give assurance of my full co-operation.

As you know, we have increased our membership to a capacity of 125 men when the roster is filled. This, I believe, is a far-reaching step and in my opinion should be further amended. It is my opinion there should be no limit to the number of memberships in this Society, if the candidates could meet the requirements of the organization.

The Academy derives its strength, not from a numerical role, but from intellectual and cultural qualities and moral attainments. We should be truly representative of the medical fraternity before society. In other words, the Minnesota Academy of Medicine should occupy and deserve a high position in public relations and medical ethics throughout the Northwest.

One of my recommendations to this Society is that next year's Executive Committee sponsor a committee on public relations and inter-medical relations. This committee should be very carefully selected, and it should concern itself with medical education, inter-relations of the public with medicine and promotion of more wholesome respect and co-operation between medicine, as practiced by specialists and general practitioners. This committee should also concern itself with socialistic trends in medicine and should be ready and free to voice an opinion in rebuke or approval of any group from the level of a county society to the American Medical Association. If every state had an organization of men with mature judgment and the fortitude to function fearlessly and justly, we would not have to apologize or alibi for endorsement of the Bricker Amendment in Congress, by representatives of organized medicine. And I think if such a committee was supported by the opinion of the Society, we could forestall the possibility of a pseudo-scientist going unchallenged in exposing the indecency of his mind under the guise of giving a scientific report.

This Society has been called a dining club of professional men. True, this caption covers one phase, and a very essential one, of our purpose but surely only a limited one. The social and convivial aspects of this Society are second to none and I am sure, cherished by every member. However, our fundamental purpose is to band together to promote higher standards of medical ethics and practice of medicine through education, mutual and fraternal assistance, to the end that our noblest instincts will be guided by the Light of Truth.

It is true, we have very limited funds, but ways and means should be implemented to increase these funds. I submit to you that no member of this Society would be hurt by an annual assessment of $10 to $25 toward raising a scholarship fund. This assessment should be one which would raise $1200 to $1500 annually. It could be augmented by voluntary donations and by funds given as memorials by friends of our departed members if our members were solicitous of such. I am leaving a memorandum with our secretary to the effect that these matters be placed before the Society through the Executive Committee early next year. The members of the scholarship and educational committee could make recommendations to the Academy and the entire membership could decide on what fellowship to sponsor and how often this fellowship could be supported. It would be known as the Minnesota Academy of Medicine Fellowship at the University of Minnesota. Such a small sacrifice by each member would accrue to the honor of our Society and give its individual members a sense of pride and justification in an act accomplished, in fostering not only an excellent dining club, but a legacy to posterity in a scholarship fund. By establishing and supporting a fellowship at the University of Minnesota the influence of the Academy would become a living memorial to its founders. Our compensation would be the realization of the furtherance of the art and practice of a noble profession. An assessment sufficient to raise $1,000 plus the interest on our bonds plus memorial contributions and voluntary donations should support a fellowship every three years until our membership grows to a point where a year or biennial endowment could be

(Continued on Page 289)

History of Medicine in Minnesota

THE PIONEER DOCTORS OF CHIPPEWA COUNTY PRIOR TO THE YEAR 1900

LEON G. SMITH, M.D.

Montevideo, Minnesota

(Continued from January, 1955, issue)

From a civic standpoint, his most notable achievement was that of inducing the Milwaukee Railroad to move its division headquarters to Montevideo. It is generally acknowledged that it was largely due to his foresight, energy and persistence in working upon the railroad officials that this was finally accomplished in July, 1893. In consequence, Montevideo occupied one of the most important railroad positions of any town in western Minnesota. The round-house, car-repair shops, freight yards, stock yards and dispatcher's offices brought many families to the town, and supplied a payroll which was a tremendous factor in its growth and development.

From a combined civic and medical standpoint, almost as notable an accomplishment was the campaign to build the Montevideo Hospital. This would probably have been built eventually in any case, but Dr. Rogers is given the credit for being the instigator of the project, and the moving force in carrying it to its completion in 1910.

He did not live continuously in Montevideo. For a few years he practiced in Minneapolis, in 1890 becoming associated once more with his old friend and preceptor, Dr. Hoegh, who had moved there from La Crosse.

Dr. Rogers was always good newspaper copy. Quoting the *Montevideo Leader* of March 25, 1887: "A series of articles, published by the *Commercial* man, uncomplimentary to Dr. C. E. Rogers, resulted in the latter soundly slapping the former's face last Saturday night." He was undoubtedly a better than average surgeon for his day, and as a result was widely called in consultation. The newspaper files, during these years, alluded to these calls frequently and described several of the difficult operations that he performed. This is not noted in any derogatory sense, as news stories about doctors and their achievements seem to have been entirely permissible in those days.

Even when he was practicing in Minneapolis was this true. I quote the *St. Paul Dispatch* of May 18, 1894: "A dislocated neck, twisted back in to proper shape, and medical science has another remarkable event to recall.

"One of the most interesting incidents, in the experience of medical men of the Northwest, happened in Minneapolis yesterday. Indeed, it will be numbered among the remarkable events in the medical history of the world. A man whose neck had been dislocated by a fall, causing his head to be twisted almost one-fourth around, and with a forward tilt, walked into the office of Dr. C. E. Rogers, and asked to have the kink straightened out, not seeming to realize the serious character of his case. It is rare that such a dislocation occurs without paralysis, due to

pressure on the spinal cord, and the physician saw he had a truly wonderful case before him. The patient, Thos. H. Golrick, of Keegan's Lake, was put under an anaesthetic and the neck gradually twisted back to its right position. As it sprang back into place, a distinct click was heard, and, suddenly, respiration ceased. The head fell to the other side, the neck became perfectly lax, and general collapse seemed to have taken place. Golrick's position, however, was quickly changed, his head raised and his tongue held so it could not obstruct the air passage. Quickly, respiration began again, and he slowly came from under the influence of the anaesthetic. When he was able to talk, he could tell nothing of the terrible experience he had been through, and was quite surprised when it was related to him. After a few minutes, he started for home, apparently as well as before the accident."

In 1897, Dr. Rogers bought part ownership in the Riverside Sanatorium for Tuberculosis and Lung Diseases, located in St. Paul, where the "pneumo-chemic system of treatment for consumption, bronchitis, catarrh, asthma and hay-fever" was used.

In July, 1898, he and his family moved back to Montevideo where he spent the rest of his life.

In 1904, he nearly lost his life. Again I quote from the *Montevideo Leader* of January 15: "Last Saturday night, Dr. C. E. Rogers went home, feeling very poorly. Next day, he was considerably worse, the indications pointing strongly toward appendicitis. Sunday night he suffered a more serious attack, which confirmed the diagnosis of Dr. Zimbeck and Dr. Herbert Rogers. Dr. Hoegh was asked to come up from Minneapolis on the next train, and Dr. Stratton of Granite Falls, Dr. Titus of Sacred Heart and Dr. La Rue of Appleton were also called. All came except Dr. La Rue, who did not receive word in time. Monday morning, Dr. Hoegh performed an operation, assisted by the other physicians present. It was found to be a very serious and complicated case, requiring an operation also for hernia. The operation was successfully performed, however, and the patient got along well until Wednesday morning, when he had a bad time, due to coughing and vomiting. That evening he was very low, indeed, but the symptoms grew more favorable through the night and yesterday, and his friends now have hopes for his complete recovery." And recover, he did.

Dr. and Mrs. Rogers had six children, one son and five daughters, of whom three, including twin girls, died in infancy or childhood. The son, Herbert W. (or Bert, as he was always called) attended the Minneapolis and Montevideo public schools and studied medicine at Northwestern University in Evanston, Illinois, joining his father in practice in 1903. Only three years later, he died as the result of a ruptured appendix.

As was to be expected, the loss of his only son, reared in the atmosphere of a doctor's home, trained in the study of medicine, and associated with him for three years of practice, was a terrific blow to Dr. Rogers. However, he carried on his work as usual and it was after Bert's death that he successfully pushed to completion the hospital project.

In 1911, Dr. Carl M. Johnson, a young doctor, just out of the University of Minnesota Medical School and a year's interneship in St. Barnabas Hospital in Minneapolis, became associated with him.

Upon December 3, 1912, his death occurred quite suddenly, from "angina pectoris." His wife survived him for several years, and his two daughters, Gertrude Titus and Jean Hubbard, are now living in San Diego, California.

One last quotation about this remarkable man taken from the *Montevideo*

Leader of December 6, 1912: "In the death of Dr. Rogers, our community loses one of its most worthy and public-spirited citizens, the medical profession one of its most competent and successful practitioners, and his family and friends a loving, generous and whole-souled husband, father and friend."

Shortly after Dr. Rogers came to Montevideo, the first Medical society was organized. September 28, 1883, a news item stated: "The physicians along the line of the H. and D. (Hastings and Dakota was the name of this division of the Milwaukee Railroad) met at Montevideo September 13 and organized a society called the Western Minnesota Medical Association, such society to meet again at Montevideo December 4, at 9 A.M." The records of this society must have been lost, including the roster of its members, and it is not until 1903 that there is any further mention of a medical organization. At that time Chippewa, Lac qui Parle, Yellow Medicine, and Renville Counties joined and formed the Camp Release District Medical Society as a component group of the Minnesota State Medical Association. The earlier records of this society have also been lost, so, at least locally, no roster of the charter members is available.

In 1883, **Dr. Galen D. Moyer** located in Montevideo, qualified and licensed both as a dentist and a physician. He was born in Sanborn, New York, and received his dental education in the College of Dentistry of the University of New York, graduating in 1879. He went to Pau, France, after graduation, being associated for a year there in dental practice with a Doctor Edwards. He returned to the United States in 1880, and studied medicine at the New York College of Medicine, graduating in 1883. His older brothers, Lycurgus R. and Lloyd G. Moyer, had come to Montevideo several years earlier and had taken a prominent part in starting and building up the new town. Since two sisters had also moved here, it was the natural thing for Dr. Moyer to follow suit immediately after graduation.

While he was carried in the records of Polk's Medical Register for many years as a Doctor of Medicine, all his professional cards and the news items about him during this period indicate that he actively practiced dentistry, but did no medical work except in the role of anaesthetist. He married a teacher in the Montevideo schools, Harriet Page, April 29, 1891, to whom two children, Margret and Galen Dana, were born.

He moved to Minneapolis in 1911, though a year or two later, his name is noted as vice-president of the V. B. Dental Club of St. Paul. Shortly thereafter he moved to Wisconsin, having his home in Spring Brook, but his office in Hayward, where he practiced until retirement in 1938. He then moved back to Chippewa County, buying the small farm across the river from Granite Falls where he died in 1940.

His daughter, Margret, now Mrs. George Halpin, lives in Minneapolis and is the owner of the well-known and exclusive women's apparel store, "Harolds."

In the late eighties, two new names appear, but so briefly as to merit small mention only. In the *Montevideo Commercial* of August 27, 1886, **Dr. Berens** was listed as "Physician, Surgeon, and Accoucheur," but this is the only time his name appeared. In issues of the same paper from January 7, 1887, to March 18, 1887, was a professional card reading **"Mrs. Dr. J. E. Hull,** Physician and Midwife," the wording of which would indicate she was an unlicensed practitioner.

In this connection, I feel some mention should be made of the Indian shows of the 1880's and 1890's. Many people waited for the annual visit of these shows and combined the pleasure of watching their entertainment with the business of laying

in a year's supply of the various liniments for man or beast, and other medications offered. Probably the best known of these itinerant troupes in Western Minnesota was the Kickapoo Indians.

They were from a Kansas and Nebraska tribe, and the euphonious sound of the name Kickapoo, made it particularly desirable as the title of a medicine show or the name of a tonic.

Dr. Wallace Jason Collins was the next regular physician upon the local scene, and, though his stay was for only a few years, he seems to have developed a rather large practice in that short time. His early history is not very complete, but information obtained from his step-daughter, would indicate that he was born in Gardner, Maine, about 1850. She remembers hearing that his father was a sea-captain. He graduated from Bowdoin College in Brunswick, Maine, in 1886, and was licensed in Minnesota March 25, 1887. His first location was in Dawson, Minnesota, but he moved to Montevideo July 20, 1888.

One of his first patients here was Joseph Melchior, who died in September of that year. The acquaintance, made with Mrs. Melchior at the time, developed further because in the *Montevideo Leader* of April 10, 1891, we find the following: "Dr. Wallace J. Collins and Mrs. Mathilda Melchior were matrimonially united Thursday evening last week. The event was a quiet one, and the happy couple took the morning train to the Twin Cities, where they passed a few days. They are now at their home on Third Street."

Newspaper items report his having "operated upon a young man named Ekstrom for hare-lip, with a good result, performing the operation in the Sparta House."

There is also an account of an accident which was a frequent one in those days: "Jas. Franzen of Appleton sustained a terrible and perhaps fatal accident. In sliding off a grain stack, he struck on the handle of a pitch-fork, the handle perforating his rectum and bowel. Dr. Collins was called and took him at once to St. Anthony Hospital in Minneapolis."

Dr. Collins' marriage broke up, with his wife leaving him in 1894. Late in 1895 his card disappeared from the Montevideo papers. He went back East, and his named appeared in Polk's Register from Gardner, Kannebeck County, Maine, in 1896. From 1903 he was listed from Westfield, Massachusetts until his death there, November 23, 1932, from angina pectoris.

Dr. John C. Tillman lived in Chippewa County for several years. He never practiced medicine here, though he did in Germany. The following was his obituary: "Died, at Montevideo, Minnesota, June 11, 1896, Dr. John C. Tillman, aged 82 yrs., 11 mos., 24 days. He was born at Colon, (probably Cologne) on the Rhine, January 19, 1813. He graduated from the University of Bonn, served in the German army, and practiced medicine in Germany for fifteen years, before coming to the United States in 1854. He lived, for a long time, in St. Peter, Minnesota, but for the past seventeen years, has lived in or near Montevideo. He has been married twice, and leaves a widow, with six of her children and two by his first wife."

C. S. (Spurge) Tillman was his son and lived most of his life in Montevideo. Along with his other work, he prepared and dispensed Tillman Oil, which was a rather famous medication in this area in the early part of this century. Undoubtedly prepared according to a formula of his father's, it was a powerful irritant, probably composed mostly of croton oil. Applied after pricking the skin with a multiple puncture appliance, it certainly "drew the poison out" in the form of numerous pustules.

Dr. Tillman's grand-son and grand-daughter still live in Montevideo.

The next name encountered is **Dr. Russell Stewart Bacon.** Here is a man who ranks high in importance in our list of pioneer physicians. An excellent doctor, he was public-spirited, and he took an active part in many civic enterprises. His fifty-one years of continuous, active practice in Montevideo make him second only to Dr. M. A. Burns in length of service to his community.

He was born May 28, 1859, the son of Mark and Emeline Bacon, at Elroy, Wisconsin. His mother died when he was four, and his father died when he was eight years of age. From this time on, he made his own way with the help of family friends. He worked his way through elementary school and graduated from high school in Mauston, Wisconsin, in 1880. He taught school for a time at Cottage Grove, a small town near South St. Paul, and studied medicine with a doctor there. He then attended Rush Medical College in Chicago, paying his way by working on the street-car lines, graduating in 1885. He came to Minnesota at once and established his first practice in Dawson in 1886, but moved to Appleton the next year. There he remained for two years. On April 11, 1899, he came to Montevideo and set up his practice, in which he remained active until 1940.

There were three excellent and active doctors in Montevideo when he arrived, Drs. Murphy, Collins and Rogers, but he soon began to get his share of business, and newspaper items in the succeeding years frequently concerned him. I quote: "Dr. Bacon has had several calls to Milan of late. On every visit, he finds many patients awaiting him, and on one trip, there were seven patients at one house, who were brought in from the neighborhood." On March 6, 1891: "Dr. Bacon drove to Clarkfield during a blizzard Tuesday night. He spent the greater part of the night wandering around on the prairie, but finally reached his destination in safety." On October 8, 1897, an account of probably the first x-ray in the county: "On Tuesday, in Dr. Bacon's office, Roentgen rays were turned on Paul Falkenhagen's leg, broken some time ago, and a skiagraph taken. H. L. Olson developed the skiagraph."

I quote the next item, as much for the rhetoric employed as for its historical significance, from the *Montevideo Commercial* of December 8, 1893: "Married by Rev. Morse, Thanksgiving evening, at the residence of the bride's parents at Cottage Grove, Minnesota, Dr. R. S. Bacon and Alice Gallinger. Our popular townsman, Dr. Bacon, not satisfied, as most mortals would have been, with ordinary Thanksgiving cheer, reaches out toward the hymeneal altar and snatches therefrom one of the fairest flowers of Cottage Grove, and claims her as his own. Surrounded by many witnesses, he plights his faith to one, who for many years, has been the idol of his heart, and unites his future to the brave and noble army of benedicts. That our genial doctor has done well, all will hope; that he has done wisely, none will question; that his future will be bright and happy all will pray. And now that he has returned to Montevideo, bringing his bride with him, a host of friends will meet them with hearty congratulations and kindly wishes that this crowning act may ennoble, enrich and beautify their united lives."

In addition to Dr. Bacon's extensive practice, he found time for many other activities. He served on the draft board during World War I and was a member on the school board from 1909 to 1919 and secretary of the U. S. Pension Board 1890-1929. He was also a member of the board of directors of the Riverside Sanatorium 1917-1937, and director of several banks at various times. He was a member of the Masonic Lodge since 1889, serving as Worshipful Master one year; a member of Damascus Commandery of Knights Templar of St. Paul since 1890; and a life member of the Camp Release District, Minnesota State and American Medical Associations.

He was confirmed as an Episcopalian in 1882, at Basswood Grove, Minnesota, but during his residence in Montevideo, attended the Congregational Church.

He kept abreast of medical times by frequent attendance at meetings and clinics. Dr. Bacon took extended courses of post-graduate work at New York University in 1892, again in 1896, and spent most of the winter of 1900 at New Orleans Poly-Clinic. Also, for a time in 1899, he went to Minneapolis every Saturday and worked in surgery as an assistant to Dr. Fred Dunsmoor in Asbury Hospital.

He retired from active practice in September 1940 at the age of 81, and his death occurred at the Montevideo Hospital only a few months later. His wife, two sons and two grandsons survived him, but Mrs. Bacon and one grandson, Richard, have died since then. His older son, Guy S., lives in Cottonwood, Minnesota, and the younger, Arthur, with his wife, resides in Dr. Bacon's old home in Montevideo.

Dr. Bernhard Lambrechts was educated both as a Doctor of Medicine and as a veterinarian. He was born in Christiania, Norway, April 15, 1828. Under some form of government subsidy, he received his education, with expenses paid, at Wittenberg, Germany, and Copenhagen, Denmark, graduating from both medical and veterinary school. He returned to practice medicine in Christiania and conducted a free clinic during part of his time (for an hour in the forenoon and an hour in the afternoon). According to his son, from whom I obtained this information, this was objected to by the aristocracy, and, as a result, Dr. Lambrechts emigrated to America in 1867, locating in southeastern Minnesota. His practice covered a huge territory extending from La Crosse, Wisconsin, to Northfield, Minnesota. In 1870, he spent some time in St. Louis, doing post-graduate work. In 1872, he moved to a farm a mile east of Willmar, in Kandiyohi county, again practicing medicine over a large area, extending from New London and Norway Lake to Benson and Montevideo. During this period, he served as coroner of Kandiyohi County for several terms. In 1891, he sold his farm and moved to Montevideo, but after locating here did no medical work and practiced veterinary medicine and surgery only. He was a member of the State Veterinary Board for several years. He was able to speak four languages fluently, Norwegian, German, French and English.

In 1904, he moved to East Granite Falls, where he died a year later.

His wife's name was Marie Muller, and there were three children: a son Barney, a daughter, Froides and a son, Thorfin, who studied Veterinary Medicine and practiced it all his life in Montevideo until his death in 1950. Thorfin's widow lives in the old Lambrechts home on North Second Street. The mother passed away in 1888, and Froides died in Illinois two years ago. Barney is living in Twin Brooks, South Dakota.

(To be continued)

In Memoriam

FRANK TANCREDE BENOIT

Dr. Frank T. Benoit, a Life Member of the Minnesota State Medical Association, died on February 7, 1955. He was seventy-three years old.

Dr. Benoit was born in Montreal, Canada. He became a naturalized citizen while still a minor through the naturalization of his father.

Dr. Benoit received his medical education at the University of Minnesota. He graduated in 1905. From 1905 until 1908, he practiced in North Dakota. He moved to Idaho and spent two years there, returning to Minnesota in 1910. He practiced for several years at Madison, Minnesota, and Slayton, Minnesota. In 1919, he settled in Winona and remained there until his death.

He was a member of the Winona County Medical Society.

WILLIAM C. CARROLL

Dr. William C. Carroll, prominent St. Paul surgeon, died March 18, 1955. He was sixty-five years old.

For many years, Dr. Carroll was associated with the St. Paul Clinic which he and Dr. Charles W. Fogarty organized in 1920. He was an attending surgeon at St. Joseph's Hospital and Miller Hospital, and a consulting surgeon at Gillette State Hospital.

Dr. Carroll was born at Lake City, Minnesota. He received his education at St. Thomas Academy and St. Thomas College in St. Paul. He received his medical training at the University of Minnesota, graduating in 1912. He interned an Ancker Hospital in St. Paul and spent two and a half years at the Mayo Clinic, for postgraduate work.

Dr. Carroll was a member of the Ramsey County Medical Society, the Minnesota State Medical Association, the American Medical Association, the Mayo Alumni Association, and the American College of Surgeons.

In 1936, Dr. Carroll was named president of the St. Thomas Alumni Association. He was elected president of the St. Paul Surgical Society in 1938.

He is survived by his wife, Lauretta; a daughter, Mrs. Margaret Clark; a son, William C., Jr., and a sister, Nellie M. Carroll, all of St. Paul.

JAMES HARRIS HAINES

Dr. James H. Haines, who had practiced medicine in Stillwater for more than fifty years, died February 16. He was eighty-three years old.

Born in Grinnell, Iowa, Dr. Haines spent his early life there and received his B.S. degree at Grinnell College. He graduated from Rush Medical college in 1895 and moved to Stillwater. He started his career as a house physician at the Stillwater Hospital, later opening an office for general practice. He was health officer of Stillwater and Washington County coroner for many years.

In 1947, Dr. Haines became a "Fifty" Club member of the Minnesota State Medical Association. He was a member of the Washington County Medical Society.

He is survived by his wife, Josephine; a daughter, Mrs. Lloyd Nelson, and two grandchildren, all of Stillwater. He is also survived by a brother, Charles, of Denver and two sisters, Mrs. F. I. Herriott of Washington and Mrs. W. G. Ray of Des Moines.

JOHN FRANCIS MADDEN

Dr. John F. Madden, fifty-three, assistant professor of dermatology and syphilology at the University of Minnesota, and director of the dermatology department at Ancker Hospital, St. Paul, died in his sleep March 9, 1955.

Dr. Madden was born in Hillsboro, Wisconsin. He received his early education at Plentywood, Montana, and came to the University of Minnesota to obtain his medical degree. After his internship at the General Hospital in Kansas City, Missouri, he spent two years at Gibbon, Minnesota. During the years 1928 to 1930, he studied at the University of Michigan. He received a degree of Master of Science in dermatology.

Dr. Madden had offices in the Lowry Medical Arts Building in St. Paul. He was a consultant at Children's and Gillette State Hospitals. He was a member of the Ramsey County Medical Society, the Minnesota State Medical Association, the American Medical Association, the American Dermatological Association, and the American Academy of Dermatology and Syphilology.

Surviving are his wife, Elizabeth; a daughter, Mary Ellen, and a son, Peter, a student at Amherst College.

ALFRED CARLTON PETERSON

Dr. Alfred C. Peterson, a veteran Minnesota physician, died March 1, 1925, at the Meeker County Memorial Hospital, Litchfield.

Dr. Peterson was born at Cokato, Minnesota, in 1875. He graduated from the University of Minnesota College of Pharmacy in 1898. He studied medicine later and received his degree in 1903. He practiced for one year in Shevlin, Minnesota, and another in Murdock. In 1905, he went to Dassel. He remained there and was active in medical practice almost until the time of his death.

Dr. Peterson was surgeon for the Great Northern Railway, Health Officer in Dassel, member of the Litchfield Hospital staff, Director of the Tri-County Medical Society (now Kandiyohi-Swift-Meeker County Medical Society), and a member of the Minnesota State Medical Association.

He was also active in community affairs, and on

(Continued on Page 284)

Reports and Announcements

MEDICAL MEETINGS

State

MINNESOTA STATE MEDICAL ASSOCIATION, annual meeting, Minneapolis, May 23-25, 1955.

Minnesota Academy of Occupational Medicine and Surgery, annual meeting, Minneapolis Athletic Club, May 25, 1955.

National

American Association of Blood Banks, eighth annual meeting, Palmer House, Chicago, Illinois, November 19-21, 1955.

American Cancer Society, Board of Directors and special committee meetings, Hotel Radisson, Minneapolis, June 2, 1955.

American Medical Association, annual meeting, Atlantic City, New Jersey, June 6-10, 1955.

American Proctologic Society, annual meeting, Hotel Statler, New York, New York, June 1-4, 1955.

International

International College of Surgeons, twentieth anniversary congress, Palais Du Conseil General, Geneva, Switzerland, May 23-26, 1955.

International Hospital Congress, Lucerne, Switzerland, May 30-June 3, 1955.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled examinations (Part II), oral and clinical, for all candidates for the American Board of Obstetrics and Gynecology will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from May 11 through May 20. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

AMES AWARD CONTEST FOR GASTROENTEROLOGY

The American College of Gastroenterology, in cooperation with the Ames Company, Elkhart, Indiana, announces the establishment of the Ames Award Contest for papers in gastroenterology. The contest is divided into two major classes with a first prize of $250 and a second prize of $50 in each class. One class is for fellows or residents in gastroenterology, the other for first or second-year interns. An additional prize of $100 will be given for the best paper published in the *American Journal of Gastroenterology* for which no prize has been previously awarded.

All papers submitted must represent original work in the field and must not have been previously published or presented at national meetings. The approach can be either clinical or basic science. Awards will be made at the annual meeting of the American College of Gastroenterology in Chicago in October, where the first-prize winners will present their papers in person.

All entries must be received no later than September 1 by the Research Committee, American College of Gastroenterology, 33 West 60th Street, New York 23, New York.

SCHERING AWARD COMPETITION FOR MEDICAL STUDENTS

The tenth annual Schering Award competition for medical students has opened. Its aim is to encourage medical writing and exploration of current research literature.

Titles of three subjects on which American and Canadian students are invited to submit papers this year are: Current Concepts in the Management of Osteoporosis; Prevention and Treatment of Blood Transfusion Reactions; and Recent Trends in the Clinical Use of Adrenocortical Steroids.

Both a $500 first prize and a second one of $250 will be awarded for each of the three subjects. Deadline for entry forms specifying the choice of title is July 1. Manuscripts should be mailed not later than October 1. Students may compete individually or co-operatively in teams. Information and instructions are available from the Schering Award Committee, 60 Orange Street, Bloomfield, N. J.

MINNESOTA LEAGUE FOR NURSING

"Better Patient Care for a Growing State" will be the theme for the state convention of the Minnesota League for Nursing, May 11-13, 1955. Registration for the convention, including all the meetings, will be held in the Nicollet Hotel, Minneapolis.

At the banquet to be held in the Terrace Room Thursday evening, Dr. Harold Graning, Regional Medical Director United States Public Health Service, Chicago, Illinois, will speak on "Citizen Participation for Better Health." Guests will be welcome.

Exhibits of the Upper Midwest Hospital Conference will be displayed in the Minneapolis Auditorium.

AMERICAN CONGRESS OF PHYSICAL MEDICINE AND REHABILITATION

The Midwestern Section of the American Congress of Physical Medicine and Rehabilitation will hold a meeting in Minneapolis on May 6 in the Mayo Memorial Auditorium in the Mayo Memorial Building on the University campus. Registration will be at 8:30 a.m. without charge. In addition to scientific papers, there will be a tour of the facilities of the Department of Physical Medicine and Rehabilitation in the Mayo Memorial Building. All interested physicians are invited to attend. For further information, write to the chairman, Dr. G. K. Stillwell, 200 First Street Southwest, Rochester, Minnesota.

CONTINUATION COURSES

Introduction to Electrocardiography will be the title of a continuation course for physicians which will be presented by the University of Minnesota at the Center for Continuation Study, May 9 to 14, 1955. As its name implies, this year's course is intended primarily for physicians with little or no previous experience in electrocardiographic interpretation. Basic principles, variations in normal patterns, and frequently observed abnormalities will be stressed. Registrants will have an opportunity to interpret more than 200 electrocardiograms under supervision of qualified instructors.

The University of Minnesota announces a continuation course in *Surgery for General Surgeons* which will be held at the Center for Continuation Study from May 26 to 28. Recent important advances in surgery will be discussed. Guest speaker will be Professor Ian Aird of the University of London Postgraduate Medical School. Professor Aird will also deliver the annual E. Starr Judd Lecture on May 26. The course will be presented under the direction of Dr. O. H. Wangensteen, professor and chairman, Department of Surgery.

TECHNICAL EDITORS AND WRITERS NEEDED

The United States Civil Service Commission announces that an examination is open for technical editors and writers in the fields of physical sciences and engineering, and medical sciences. The positions pay $3,410 to $10,800 a year and are located in the Potomac River Naval Command and other Federal agencies in Washington, D. C., and vicinity.

No written test is required, but applicants must have had appropriate experience or a combination of education and experience. Further information and application forms may be obtained at many post offices throughout the country, or from the U. S. Civil Service Commission, Washington 25, D. C.

TRUDEAU SCHOOL OF TUBERCULOSIS

Despite the closing of the clinical facilities of the Trudeau Sanatorium, the forty-first session of the Trudeau School of Tuberculosis will begin June 1 and continue to June 29. The staff, facilities and skills of the Trudeau organization laboratories, of the various sanatoria in the Saranac Lake area, and of the practicing tuberculosis specialists of Saranac Lake will be called upon as in the past to present the program.

The course will cover all aspects of pulmonary tuberculosis and also certain phases of other chronic chest diseases, including those of occupational origin.

Registrations will be limited and it is suggested that those planning to attend make early application for enrollment. The tuition is $100, payable to the Trudeau School on or before the opening date, June 1. A few scholarships are available for those individuals who can qualify. Applications and more detailed information may be obtained from Secretary, Trudeau School of Tuberculosis, Box 200, Trudeau, New York.

In Memoriam

(Continued from Page 282)

March 28, 1949, the residents of Dassel honored Dr. Peterson at an Appreciation Day.

Dr. Peterson is survived by his wife, Karen Marie; two daughters, Mrs. Harold R. Havig, Owatonna, and Mrs. Seymour N. Gayner, Chaska; five grandchildren; two brothers, John of Dassel and Edward of Knapp; one sister, Mrs. Oscar Sandeen of Mound.

ERNEST G. STERNER

Dr. Ernest G. Sterner, St. Paul surgeon, died January 20, 1955, after an illness of several months. He had retired from practice less than a year before. He was seventy-two.

Dr. Sterner was born at Ohr, Sweden, in 1882. He graduated from Hamline University's medical school in 1906. He had been a resident of St. Paul for sixty-four years.

President of the Ramsey County Medical Society in 1923, Dr. Sterner was also a life member of the Minnesota State Medical Association, a member of the St. Paul Surgical Society, the American Medical Association and the Phi Rho Sigma fraternity, and past chief of staff at Bethesda Hospital.

Survivors are his wife, Elizabeth; two daughters, Mrs. Edwin Frenzel, Oaklawn, Ill., and Mrs. Charles Morscheck, Lansing, Mich.; a son, Dr. John H. Sterner, St. Paul; and nine grandchildren.

Communication

Dear Editor:

I should like to enlist your aid in bringing to the attention of Minnesota doctors information about the availability of the service of the Calvert School for the education of home-bound children of elementary school age.

Calvert is an unendowed non-profit institution in Baltimore, regularly accredited by Maryland's department of education. Since 1905 it has provided an elementary school education by mail, from kindergarten through the Ninth Grade, for children who cannot attend regular schools. It pays particular attention to the problems of the home-bound child. It is not in competition with the visiting teacher programs of the public school systems; rather, it reaches areas beyond the range of those programs.

As a non-profit organization, Calvert has a primary interest in extending its service where needed rather than in increasing its enrollment.

Very truly yours,
DONALD C. THOMPSON

30 Rockefeller Plaza,
New York 20, N. Y.
February 23, 1955

Woman's Auxiliary

HENNEPIN AUXILIARY CONVENTION HOSTESSES

Minnesota doctors' wives are cordially invited to attend the 33rd annual meeting of the Woman's Auxiliary to the Minnesota State Medical Association in Minneapolis, May 23, 24 and 25. Headquarters will be in the Hotel Radisson.

Numerous interesting events have been planned by the Woman's Auxiliary to the Hennepin County Medical Society, with Mrs. Clyde M. Cabot and Mrs. E. T. Evans as co-chairmen for the convention.

Advance registration will begin at 1:00 p.m., Sunday, May 22, at the Hotel Radisson, and will continue at 8:00 a.m., Monday and Tuesday. The Executive Board meeting and luncheon will be at the Minneapolis Club, beginning at 9:45 a.m., Monday, May 23. In the afternoon, a tea and style show will take place at Rothschild-Young Quinlan's, beginning at 2:30 p.m. A tour of a local candy manufacturer's studio has also been planned for Monday morning.

Monday evening, doctors and their wives will attend the annual Open House entertainment, scheduled for 9:00 p.m. at the Hotel Radisson. Hosts will be the Hennepin County Medical Society—excellent entertainment has been secured in honor of the 100th anniversary of the host society.

The official annual business meeting of the State Auxiliary will begin at 9:30 a.m., Tuesday, May 24, in the Junior Ballroom, Hotel Radisson. Annual reports will be heard and officers will be elected. Following this will be the annual luncheon, where a nationally recognized performer will entertain. Installation of officers, presentation of president's pin and gavel, and greetings from the new president will take place here, followed by the new president's first post-convention board meeting.

Tuesday evening, May 24, the annual banquet of the Minnesota State Medical Association will be held in the Ballroom of the Hotel Radisson.

Final activity of the meeting will be the Wednesday morning breakfast at the home of Mrs. Harvey Nelson.

The Hennepin County Medical Auxiliary has arranged a fine array of social and business events for this meeting, and auxiliary members, and non-members also, are urged to plan now to attend.

RAMSEY COUNTY REPORTS ACTIVITIES

Mrs. L. T. Simons

The Woman's Auxiliary to the Ramsey County Medical Society assisted in the Career Festival, March 8, 9 and 10 at St. Thomas College in St. Paul. The event brought thousands of high school and college students from the entire state to gain information about various careers they may wish to follow.

The Minnesota State Medical Association sponsored a booth at the festival. Members of the auxiliary who were on hand to be of assistance were: Mesdames R. R. Grau, Wallace A. Gleason, M. D. Hilker, L. F. Freidman, H. H. Fesler, C. W. Froats, A. J. Felion, Jr., Alexander McEwan, L. T. Simons. Arrangements were made by Mrs. Douglas Kusske and Mrs. W. P. Gardner, Ramsey Auxiliary president. These members, assisted by seniors from the St. Thomas pre-medical school, gave out information and literature to students interested in a medical career.

Mrs. W. P. Gardner, president, called a board meeting on March 21 in the Medical Arts Library. During and following the meeting, cancer dressings were made.

Mrs. D. R. Gillespie, chairman for *Today's Health* subscriptions, and Mrs. Frank Milnar had charge of a booth on March 28 during the "What's Cooking?" program. Pamphlets and posters were on display, and magazines were sold by the copy and by subscription.

Our case work representative, Mrs. Alexander McEwan, attends a monthly meeting at which welfare groups are represented. Bills in the legislature and civic problems are explained and discussed.

Mrs. Wallace Gleason, press chairman, and Mrs. John Madden attended a meeting of the Historical Society on February 17. Dome Club members were guests of the society at a tea and lecture by Nobel prize winner, Dr. Philip Hench, of Rochester.

The auxiliary sent contributions to the Crusade for Freedom and also to the Civic Opera Association, the latter to be used to purchase tickets for the blind to attend the opera's presentation of "Oklahoma."

COUNTY AUXILIARIES REPORT HEALTH PROJECTS

Mrs. L. Raymond Scherer

Following a request to the presidents of the county auxiliaries, several have reported on some of their community activities in the health field.

The most popular is in the field of nurse recruitment —entertaining and informing the high school students of the possibilities of a career in that profession.

Wright, Redwood-Renville and McLeod Auxiliaries helped in the poliomyelitis, heart and cancer fund-raising campaigns. Wright and Hennepin Auxiliaries also made cancer dressings, as did Ramsey Auxiliary. Redwood-Renville Auxiliary also helped with the Red Cross Mobile Unit, Wabasha Auxiliary worked with a local PTA and arranged to bring Dr. Roy C. Burt of the Anoka State Hospital to speak for their March meeting.

Hennepin County Auxiliary gives financial support to many health and health education organizations.

St. Louis County Auxiliary arranged a most interesting meeting honoring Dr. Kate P. Newcomb, a physician from Woodruff, Wisconsin. She had been the "star" on "This Is Your Life." A result of that program was a fund of $110,000 to complete and furnish the Lakeland Memorial Hospital in Woodruff. In Duluth, 200 were present to hear her and to see the film of the national television network program on her life.

Of General Interest

Dr. E. M. Hammes, St. Paul, attended the regional research meeting of the American Psychiatric Association in Galveston, Texas, on February 18 and 19. The entire meeting, he reported, was devoted to the physiologic basis, values, limitations and hazards of pharmacologic products recently introduced in the treatment of psychiatric disorders. Dr. Hammes drove to the meeting from Florida, where he had spent his winter vacation.

* * *

Dr. Cyril M. Smith, Duluth, St. Louis County coroner, was principal speaker at a meeting of the Duluth Association of Accident and Health Underwriters in mid-February. Dr. Smith discussed cardiovascular diseases and occupational and industrial hazards.

* * *

"Self-Medication" was the title of a radio talk given by **Dr. Donald M. Odland,** Luverne, over station KWOA, Worthington, on February 20. He discussed the dangers invited by persons who diagnose and prescribe for themselves. His talk was presented on "Your Health Hour," a program sponsored by the Southwestern Minnesota Medical Society and Auxiliary and the Minnesota Department of Health.

* * *

Dr. Irving C. Bernstein, Minneapolis, has been elected to membership in the American Psychosomatic Society.

* * *

Dr. Edward H. Juers, Red Wing, attended a one-week meeting of the American Academy of Orthopedic Surgery in Los Angeles early in February.

* * *

Dr. Charles H. McKenzie, Minneapolis, has announced that **Dr. Francis M. Swain** is now associated with him in the practice of gynecology and obstetrics, with offices at 1035 Medical Arts Building, Minneapolis.

* * *

Among physicians who attended the tenth National Rural Health Conference in Milwaukee in late February was **Dr. Paul C. Leck** of Austin.

* * *

Dr. Frederic F. Wipperman, Minneapolis, was recently elected president of the Edina Optimist Club, a civic-minded organization whose motto is "Friend of the Boy." Dr. Wipperman has practiced ophthalmology in Minneapolis since 1946.

* * *

Dr. O. M. Heiberg, Worthington, presented a special lecture for senior medical students at the University of Minnesota late in February. As part of a course in "Orientation to Practice," he discussed the subject of practicing in a clinic.

Dr. Jack V. Wallinga, formerly of Minneapolis, recently attended the American Orthopsychiatric Association meeting in Chicago. Dr. Wallinga is now stationed at the U. S. Naval Hospital, Oakland, Calif., where he is clinical director of the neuropsychiatric service.

* * *

Dr. Berry Campbell, associate professor of anatomy at the University of Minnesota, presented a series of lectures on the nervous system at medical centers in Norway, Sweden and The Netherlands in March. He returned to Minneapolis on March 25. Sponsor of his lecture tour was the University of Leiden.

* * *

Guest speaker at a meeting of the Women's Auxiliary of Immanuel Hospital in Mankato in mid-February was **Dr. H. J. Nilson** of Mankato. He spoke on the hospital and medical situation in Sweden, where he visited last year.

* * *

Dr. C. J. Watson, head of the department of medicine at the University of Minnesota Medical School, is visiting the Middle East during April to lecture and conduct conferences in medical schools in Lebanon, Iraq, Syria, Jordan, Egypt and Israel. His trip is sponsored by the International Education Division of the U. S. Department of State. He will return to Minneapolis on May 3.

* * *

Dr. James A. Leigh has been appointed city health officer in East Grand Forks. He succeeds the late Dr. G. P. Kirk, who died January 20 after holding the office for more than thirty years. Dr. Leigh has practiced in East Grand Forks since 1953.

* * *

The American College of Surgeons has awarded a $20,000 research grant to **Dr. Fletcher A. Miller,** a surgery research fellow at the University of Minnesota Medical School. The grant will cover a three-year period beginning July 1, 1955. Through his research thus far at Minnesota Dr. Miller has developed the use of a mass spectrometer to determine the level of carbon dioxide developed by a patient during surgery.

* * *

Dr. Andrew Sinamark, Hibbing, was the principal speaker at a meeting of the Kiwanis Club at Ely late in February. He showed pictures of a trip he made last summer to the Pacific islands.

* * *

A new surgical textbook, "Surgery of the Small and Large Intestine," by **Dr. C. W. Mayo,** Rochester, has just been published by the Year Book Publishers, Inc., of Chicago. The book, consisting of 340 pages and 94 plates, was illustrated by Russell Drake of the art studio of the Mayo Clinic.

Dr. Milton Howell, Glencoe, was the principal speaker at a meeting of the Glencoe Business and Professional Women's Club in late February. Dr. Howell discussed "Cancer in Women and Manner of Self-detection." A motion picture on the same subject preceded his talk.

* * *

During the middle of March, **Dr. A. C. Hilding,** Duluth, was in Hollywood-by-the-Sea, Florida, attending meetings of the American Laryngological Association, the American Triological Society and the American Otological Society. He was elected to membership in the American Otological Society on March 17. On April 6 and 7, Dr. Hilding presented a series of four lectures on eye and ear research at the annual Spring Congress in Ophthalmology and Otolaryngology of the Gill Memorial Eye, Ear and Throat Hospital, Roanoke, Virginia.

* * *

Dr. Tague C. Chisholm, Minneapolis, discussed accidents in childhood when he spoke at a meeting of the Duluth Principals and Supervisors Association and the Duluth Parent-Teachers Association Council in February.

* * *

Principal speaker at a clinical pathological conference at the Falls Memorial Hospital, International Falls, in late February was **Dr. H. E. Law,** Virginia. He discussed cancer of the stomach. The conference is held each month, featuring a specialist in some field of medicine as guest speaker.

* * *

Dr. Leo Furr, Bird Island, reported for a two-year tour of duty with the Air Force on March 11. He was associated in practice in Bird Island with **Dr. H. P. Hinderaker.**

* * *

Dr. E. S. Boone, Luverne, was the principal speaker at a meeting of the Rock County 4-H leaders at Luverne in late February.

* * *

Dr. R. N. Barr, deputy state health commissioner, discussed "How Safe Is Your Child" at a meeting of the women's section of the Industrial Safety School in Duluth on March 9.

* * *

Among physicians attending the eighteenth annual meeting of the New Orleans Graduate Medical Assembly in New Orleans, March 7 to 10, was **Dr. R. R. Wright** of Austin.

* * *

Dr. and Mrs. J. A. Myers, Minneapolis, spent a week in mid-March on a business and pleasure trip to Puerto Rico. During the trip Dr. Myers, who is professor of preventive medicine at the University of Minnesota, gave a series of lectures at San Juan, Puerto Rico.

* * *

While returning from a medical meeting in Chicago in mid-February, **Dr. John B. Frost,** Minneapolis, suffered minor injuries when a train on which he was riding was derailed near Waukegan, Illinois.

Dr. John B. Moyer, Duluth, has been appointed president of the Duluth Heart Council, a group which aims at disseminating programs of public and professional education.

* * *

Dr. Robert Gray, formerly of Marshall, was married to Betty Batcup of Devon, England, on January 29. The wedding took place in Nairobi, Kenya, Africa. Dr. Gray left for Africa on a Ford Foundation fellowship in August, 1954. He has completed research in health, hospital and medical practices in Kenya and will continue his research for eighteen months in Tanganyika and Uganda. Dr. Gray is the son of **Dr. and Mrs. F. D. Gray** of Marshall.

* * *

A scientific motion picture produced at the University of Minnesota has received a second-place silver medallion from the Screen Producers Guild in Los Angeles. The film, "One Victory," is a presentation of a low-temperature heart operation performed by **Dr. Richard Varco, Dr. F. John Lewis** and **Dr. Mansur Taufic.**

* * *

Dr. W. F. Mercil, Crookston, was the principal speaker at a meeting of the Mathein Club in Crookston on March 7. He spoke on the topic, "Preventive Medicine in the Human Female."

* * *

Dr. John M. Waugh, Rochester, was one of the speakers at a sectional meeting of the American College of Surgeons in Nashville, Tennessee, on April 4. He discussed "Various Types of Gastrectomy."

* * *

Maj. Gen. Silas B. Hays, a native of St. Paul, has been nominated by President Eisenhower to be Surgeon General of the Army, effective June 1. Dr. Hays, who has been deputy surgeon general for the past four years, would succeed Maj. Gen. George E. Armstrong, who is scheduled to retire.

* * *

Dr. David Allison, Litchfield, left on March 14 to begin a two-year tour of duty in the Air Force. While he is on military duty, his practice will be handled by his associate, **Dr. Gregory Olson** of Litchfield.

* * *

At the age of ninety-two, **Dr. Fletcher W. Penhall,** Willmar, retired from active practice on March 1. Dr. Penhall, a graduate of Bellevue Medical Center in New York, began practicing in Morton in 1891. After fifty-three years of practice there, he moved to Willmar and became a member of the staff of the Willmar State Hospital in 1944. Now in retirement, Dr. Penhall is again living in Morton.

* * *

A testimonial dinner honoring **Dr. E. E. Novak** of New Prague was held in Jordan by King Hiram Lodge, A.F. and A.M., on February 22. At the dinner, residents of the area paid tribute to Dr. Novak for his almost sixty years of service as a physician in New Prague. Representatives of numerous fra-

ternal organizations were on hand to honor him and to present him with a watch to mark the occasion. Dr. Novak was graduated from the University of Iowa in 1895. He served as a member of the University of Minnesota Board of Regents for twenty-two years.

* * *

In Hallock three physicians have combined to form the Hallock Clinic. They are **Dr. J. E. Nord, Dr. Anthony S. Berlin** and **Dr. P. J. Parker**. The clinic will be housed in the building formerly occupied by Dr. Nord. The building has been completely remodeled and redecorated to provide proper quarters for the new medical center.

* * *

The Minnesota State Medical Association's new television series, "Doctor's Digest" appears weekly over KEYD-TV. The show, jointly sponsored by the Association and the University of Minnesota, can be viewed from 6:30 to 7:00 p.m. on Thursday evenings. **Dr. James Rogers Fox,** Minneapolis, serves as moderator and the show features regular medical tips of the week and medical news of the week, plus panels, interviews and film clips. Billed as a "medical variety show," it is hoped that "Doctor's Digest" will bring important medical and health news to the people of the state.

* * *

The alumni of the Cyrus Fishermen's College will hold its 17th annual banquet at Cyrus, Minnesota, April 29, at 7 P.M. **Dr. H. Linde,** who has practiced medicine in Cyrus nearly fifty years, is president of the college. All Minnesota doctors are cordially invited to this banquet of walleye pike.

NEW LOCATIONS

Dr. Ralph Rayner, formerly of Gibbon, has become associated in practice with **Dr. David F. Struxness at Glencoe**. A graduate of the University of Minnesota Medical School, Dr. Rayner interned at Minneapolis General Hospital. He practiced at Gibbon for the past three years.

Dr. Arthur Neumaier has returned to Glencoe to resume the practice of medicine there following a period of study at the Veterans Administration Hospital in Minneapolis.

Dr. Charles T. Louisell, who recently was released from active duty with the Navy, has opened offices for the practice of medicine in Fairmont. A graduate of the University of Minnesota in 1944, he specialized in ophthalmology and otolaryngology before beginning his military service.

Dr. John B. Maunder, who recently completed two years of duty in the Air Force, has become associated with the Oxboro Clinic in Richfield. A graduate of the University of Minnesota in 1945, he specialized in obstetrics and gynecology before entering the Air Force.

Dr. D. W. Sontag, formerly of Long Beach, Calif., has become associated in practice with **Dr. E. C. Bayley** and **Dr. B. A. Flesche** in Lake City. He is a graduate of the University of Minnesota.

HOSPITAL NEWS

The results of elections conducted recently by the medical staffs of numerous Minnesota hospitals have been announced. Among the election results reported are the following:

Fairview Hospital, Minneapolis: Dr. Glenn Petersen, chief of staff; Dr. L. J. Roberts, chief-elect; Dr. Lester W. Carlander, Jr., treasurer; Dr. Stanley Stone, secretary.

Montevideo Hospital, Montevideo: Dr. L. A. Krystosek, chief of staff; Dr. J. H. Allen, vice president; Dr. E. G. Hustad, secretary-treasurer.

Municipal Hospital, Worthington: Dr. C. R. Stanley, chairman; Dr. D. J. Halpern, vice chairman; Dr. Raymond Minge, secretary.

St. Joseph's Hospital, Brainerd: Dr. R. L. Cushing, chief of staff; Dr. E. R. Kanne, vice chief of staff; Dr. Maurice Meller, secretary-treasurer.

Doctors Memorial Hospital, Minneapolis: Dr. Allan J. Blake, chief of staff; Dr. Richard H. Beiswanger, assistant chief of staff; Dr. Fred A. Rice, secretary.

Miller Memorial Hospital, Duluth: Dr. F. T. Becker, chief of staff; Dr. John F. Schmid, vice chief of staff; Dr. John J. Dwyer, secretary-treasurer.

St. Francis Hospital, Shakopee: Dr. I. B. Heinz, chief of staff; Dr. B. F. Pearson, assistant chief of staff; Dr. Harry Simmonds, secretary-treasurer.

St. Barnabas Hospital, Minneapolis: Dr. Arthur H. Mork, chief of staff; Dr. Lloyd F. Sherman, vice chief of staff; Dr. John T. Moehn, secretary-treasurer.

St. Gabriel's Hospital, Little Falls: Dr. A. H. Benson, president; Dr. David Hoehn, vice president; Dr. G. W. Heine, secretary-treasurer.

St. Luke's Hospital, Duluth: Dr. M. F. Fellows, chief of staff; Dr. Arden L. Abraham, chief-elect; Dr. H. J. Jeronimus, secretary.

Community Hospital, Fairmont: Dr. O. E. Wandke, president; Dr. A. L. Ourada, vice president; Dr. H. A. Williamson, secretary.

Asbury Hospital, Minneapolis: Dr. Wayne S. Hagen, chief of staff; Dr. Einar Monson, vice president; Dr. M. Elizabeth Craig, secretary-treasurer.

Olmsted Community Hospital, Rochester: Dr. Theodore O. Wellner, president; Dr. James R. Doyle, vice president; Dr. R. L. Page, secretary.

St. Mary's Hospital, Minneapolis: Dr. James E. Trow, chief of staff; Dr. C. N. Borman, vice chief of staff; Dr. John Kelly, secretary-treasurer.

Community Memorial Hospital, Faribault: Dr. Ernest J. Nelson, chief of staff; Dr. Paul Stahler, vice chief of staff; Dr. Elizabeth Reischl, secretary-treasurer.

St. Joseph's Hospital, Saint Paul: Dr. J. P. Med-

elman, president; Dr. Bernard O'Reilley, vice president; Dr. Francis W. Lynch, secretary; Dr. C. L. Cain, treasurer.

City Hospital, Owatonna: Dr. O. W. Roberts, president; Dr. Frank C. Anderson, vice president; Dr. K. G. Henry, secretary-treasurer.

Glenwood Hills Hospital, Minneapolis: Dr. Irving Bernstein, chief of staff; Dr. John Schumacher, vice president; Dr. Jennings Peteler, secretary-treasurer.

St. Mary's Hospital, Duluth: Dr. Karl E. Johnson, chief of staff; Dr. R. E. Nutting, chief-elect; Dr. J. C. O'Neill, secretary.

MINNESOTA BLUE SHIELD - BLUE CROSS

Blue Cross

During the month of January, 1955, 11,119 participant subscribers were enrolled in Blue Cross bringing the net enrollment as of January 31, 1955, to 1,002,760 participant subscribers.

Hospitalization expense incurred by Blue Cross subscribers during the month of January, 1955, amounted to $1,374,711.70.

Effective March 1, 1955, a Washington, D. C., office of the Blue Cross Commission will open the Artemas C. Leslie, Associate Director of the Blue Cross Commission in charge.

The reasoning for opening of the Washington office was due to the importance and frequency of contracts with our Federal Government which assures full time staff attention to Washington affairs.

Artemas C. Leslie is a Pittburgh attorney and for the past five years has been Insurance Commissioner of Pennsylvania. He was originally appointed in 1950 by Governor James H. Duff and reappointed by Governor John S. Fine. Under Leslie, many new fields of insurance activity were opened up, including new concepts of multiple-line underwriting, "package" policies, and other experimentations.

Leslie has been active in the affairs of the National Association of Insurance Commissioners. He has been a member of the Association's Executive Underwriting Powers as well as chairman of the Subcommittee on Blue Cross and Blue Shield of the Accident and Health Committee.

Leslie is senior partner in the law firm of McCloskey, Best & Leslie, of Pittsburgh. He is a member of the Allegheny Counuty, Pennsylvania, and American Bar Associations, the National Insurance Bar, the Federation of Insurance Counsel, American Law Institute, and American Judicature Society. He is admitted to practice in the State and Federal Courts, including the Supreme Court of the United States.

Blue Shield

Of increasing interest are the Blue Shield statistical data compiled annually which show the number of different types of services furnished Blue Shield subscribers by doctors of medicine. On a comparative basis, each type of service in 1954 increased numerically over the number of such services in 1953, and the average payment for each type of service also showed an increase. Such services as in-hospital medical care, emergency medical care, obstetrical, surgical and ancillary services showed a marked increase both in the number of cases in 1954 as compared with 1953, and in the amount paid by Blue Shield for such services.

During 1953, the average payment made to doctors for in-hospital medical care was $24.66 per claim. In the year 1954, this average increased to 29.01 per service and the number of such services increased 15% over 1953. More remarkable is the increase in emergency medical care payments and the increase in the number of such claims compared with the year 1953. Payments in 1953 for emergency medical care averaged $338.48 per claim. In the year 1954, this average payment increased to $43.02 per claim, or an increase of $4.54 more than the average amount paid per claim in 1953. In addition, the number of claims of this nature in 1954 almost doubled the number paid in 1953.

Obstetrical services furnished Blue Shield subscribers have always been one of the most frequent Blue Shield services. During 1953, the average cost per claim for this service was $52.52. During the year 1954, the average cost per service was $60.20. It is also noted that an increase of 698 in the total number of obstetrical services was experienced in 1954 as compared with 1953.

In reviewing the data on surgical services rendered to Blue Shield subscribers, an increase of 16 per cent was experienced in the total number of surgical services provided during 1954. Other types of services showing marked increases are those known as ancillary services. These include anesthesia, x-rays and endoscopic services. For each type of ancillary service during the year 1954 substantially more benefits were paid by Blue Shield for services rendered to subscribers.

It is apparent from these analyses that in both the number of services and the amounts paid for the different services, Blue Shield payments to doctors have grown appreciably in 1954 as compared with 1953. There is great likelihood that payments both in number and costs will be even greater in 1955.

MINNESOTA ACADEMY OF MEDICINE

(Continued from Page 275)

met. Some of these ideas and ideals have been mentioned by some of our distinguished former presidents and I simply wish to implement their fulfillment. Each of you will have time to evaluate them and I beg your indulgence to give these matters your early consideration in the coming year.

Dr. Regnier, of Minneapolis, read his address as retiring president on "Hormonal Treatment of Metastatic Carcinoma of the Breast." Lantern slides were shown.

The meeting adjourned.

ROBERT E. PRIEST, M.D., *Secretary*

BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

EARLY CARE OF ACUTE SOFT TISSUE INJURIES. Committee on Trauma, American College of Surgeons. 192 pages. Price $1.00, paper cover. Chicago: American College of Surgeons, 1954.

AN OUTLINE OF THE TREATMENT OF FRACTURES. Fifth Edition. Committee on Trauma, American College of Surgeons. 93 pages. Illus. Price $1.00, paper cover. Chicago: American College of Surgeons, 1954.

ION EXCHANGE AND ADSORPTION AGENTS IN MEDICINE. Gustav J. Martin, Sc.D., Research Director, National Drug Company, Philadelphia. 333 pages. Illus. Price $7.50, cloth. Boston: Little, Brown & Co., 1955.

SURGERY OF THE SMALL AND LARGE INTESTINE. Charles W. Mayo, M.D., Section of Surgery, Mayo Clinic, Rochester, Minnesota; Professor of Surgery, Mayo Foundation, Graduate School, University of Minnesota. 340 pages. Illus. Price $9.00, cloth. Chicago: Year Book Publishers, Inc., 1955.

THE MEDICAL CARE OF THE AGED AND CHRONICALLY ILL. Freddy Homburger, M.D., Research Professor of Medicine, Tufts College Medical School. 253 pages. Illus. Price $5.75, cloth. Boston: Little, Brown & Co., 1955.

NATIONAL PLUMBING CODE. Sponsored by American Public Health Association and American Society of Mechanical Engineers. 174 pages. Price $3.50, paper. New York: American Society of Mechanical Engineers, 1955.

THE HEALTH VISITOR AND TUBERCULOSIS. By Sheena H. Buchanan, SRN, SCM, HV Cert, Assistant Superintendent Nursing Officer in Charge of Health Visitors, Northamptonshire County Council. Foreword by J. Greenwood Wilson, M.D., FRCP, DPH, Medical Officer of Health, Port of London, Formerly Medical Officer of Health, City & Port of Cardiff. Preface by G. B. Lord, M.D., Physician Superintendent, Rushden House Sanatorium, Northamptonshire. 150 pages, including facsimiles of report cards. Clothbound. Price 8s. 6d. London: The National Association for the Prevention of Tuberculosis, 1955.

Here, in concise and readable form, is a practical guide for health visitors in tuberculosis written from the author's own experience. Although she treats in detail the minute-to-minute practicalities of routine work and considers such wide questions as general and specialized health visiting, the health visitor and the chest clinic, and the changes brought about by the National Health Service Act, Miss Buchanan never forgets the human aspect. The family is the central social unit and courage and patience are the prime attributes of the good health visitor trying to help them. No one in the public health work should miss this latest contribution to the welfare of the tuberculous.

ANATOMY; REGIONAL AND APPLIED. By Raymond Jack Last, M.B., B.S. (Adel.), F.R.C.S., Professor of Applied Anatomy, Royal College of Surgeons of England. 665 pages. Illus. Price $10.00. Boston: Little, Brown and Company, 1954.

This book on human anatomy is written to help the reader understand anatomy. It is in no sense a book on surgical anatomy, in which the reader is given a short course in surgical technique rather than anatomy. The book is divided on a regional basis. The embryological and functional aspects are given. An added feature is the bibliographical notes at the end of the book. An adequate index is given and the book is well printed. It should enjoy a wide popularity.

C. E. REA, M.D.

BOUND COPY OF BULLETIN ON RHEUMATIC DISEASES AVAILABLE

The first four volumes of *The Bulletin on Rheumatic Diseases* have been bound in soft cover and are now available to physicians.

The Bulletin, published by the Arthritis and Rheumatism Foundation, is issued nine times a year and is available without charge to all physicians and medical students who request it.

Physicians wishing to regularly receive *The Bulletin on Rheumatic Diseases* at no cost, should write to Dr. Russell L. Cecil, Medical Director, Arthritis and Rheumatism Foundation, 23 West 45th Street, New York 36, N. Y.

The bound special volume composed of all issues of *The Bulletin* of the past four years, is available from the Arthritis Foundation at the cost of $1.

The Bulletin, the only American publication in the field of the rheumatic diseases, was started in 1950 to foster greater interest in the rheumatic diseases among physicians. Its aim is to keep doctors abreast of the more important clinical advances and changing concepts of the rheumatic diseases promptly, simply and succinctly.

The Bulletin at present is being distributed to 22,500 physicians throughout the United States and tweny-five foreign countries.

"PRESCRIPTION FOR MEDICAL PARTNERSHIPS"

"Prescription for Medical Partnerships," a general information booklet on the business details of establishing and continuing a group medical practice, has been prepared by Dr. Charles Maertz, retired Medical Director of the Union Central Life Insurance Company.

A copy can be obtained by writing to "Medical Partnerships," Field Service Division, P.O. Box 179, Cincinnati 1, Ohio.